

Presented

by

The Commissioners of Longitude

April 6. 1776



429. a

pp. 2373. m.

429. a
THE
NAUTICAL ALMANAC
AND
ASTRONOMICAL EPHEMERIS,
FOR THE YEAR 1769.

Published by ORDER of the
COMMISSIONERS OF LONGITUDE.

L O N D O N :

Printed by W. RICHARDSON and S. CLARK,
PRINTERS;
AND SOLD BY
J. NOURSE, in the Strand, and Mess. MOUNT and PAGE,
on Tower-Hill,
Booksellers to the said COMMISSIONERS.
M DCC LXVIII.
[Price Two Shillings and Six Pence.]



6.D-9

EXTRACT from the late Act of Parliament
concerning the Longitude, made in the
Fifth Year of the Reign of his present
Majesty.

WHEREAS the Publication of Nautical Almanacs constructed by proper Persons, under the Direction of the said Commissioners, would greatly contribute to make the said Lunar Tables more generally useful; Be it further Enacted, by the Authority aforesaid, That it shall and may be lawful to and for the said Commissioners to cause such Nautical Almanacs, or other useful Tables, to be constructed, and to print, publish, and vend, or cause to be printed, published, and vended, any Nautical Almanac or Almanacs, or other useful Table or Tables, which they, or the major Part of them, shall, from time to time, judge necessary and useful, in order to facilitate the Method of discovering the Longitude at Sea; any Law, Statute, exclusive Privilege, private Charter, or other Custom, to the contrary thereof notwithstanding.

And be it Enacted by the Authority aforesaid, That no Person or Persons shall print, publish, or vend, or cause to be printed, published, or vended, any Nautical Almanac or Almanacs, or other Table or Tables constructed under the Direction of the said Commissioners, without being first licensed by the said Commissioners, or the major Part of them: And if any Person or Persons not so licensed, or not being authorized by the Person or Persons so licensed by the said Commissioners, shall print, publish, or vend, or cause to be printed, published, or vended, any such Nautical Almanac or Almanacs, or other Table or Tables, every such Person or Persons shall, for every Copy of such Nautical Almanac or Table so printed, published, or vended, forfeit and pay the Sum of Twenty Pounds; to be recovered by Action of Debt, Bill, Plaint, or Information, in any of his Majesty's Courts of Record at *Westminster*; and that One Moiety of such Penalty and Forfeiture shall be to his Majesty, his Heirs and Successors, and the other Moiety to him or them that shall prosecute, inform, or sue for the same.

By

By the COMMISSIONERS appointed by Acts of Parliament for the Discovery of the Longitude at Sea, and for examining, trying, and judging of all Proposals, Experiments, and Improvements relating to the same.

WHEREAS we have employed proper Persons to compute Nautical Almanacs and Astronomical Ephemerides for the Years 1769 and 1770, which will greatly contribute to make the Lunar Tables constructed by the late Professor MAYER of *Göttingen* (which you have already printed with our Authority) more generally useful; and whereas we think fit to employ you to print the said Nautical Almanacs and Astronomical Ephemerides: We do therefore, in pursuance of the Power vested in us by Act of Parliament, hereby license, authorize, and empower you to cause the same to be printed, together with such other useful Tables for facilitating the Method of discovering the Longitude at Sea, as shall have been constructed under our Direction, and will be delivered to you by the Reverend Mr. NEVIL MASKELYNE, his Majesty's Astronomer Royal at *Greenwich*; and for so doing this shall be your sufficient Warrant. Given under our Hands and Seals this 18th of *June* 1768.

To Mess. WILLIAM
RICHARDSON and
SAMUEL CLARK,
Printers in *Salisbury-
court, Fleet-street.*

ED. HAWKE	(L.S.)
JOHN CUST	(L.S.)
C. KNOWLES	(L.S.)
N. MASKELYNE	(L.S.)
T. HORNSBY	(L.S.)
JOHN SMITH	(L.S.)
E. WARING	(L.S.)
A. SHEPHERD	(L.S.)
G. B. RODNEY	(L.S.)
T. SALUSBURY	(L.S.)
P. STEPHENS	(L.S.)
G. COKBURNE	(L.S.)
R. LONG	(L.S.)

By Command of the Commissioners,

JOHN IBBETSON, Secretary.

By the COMMISSIONERS appointed by Acts of Parliament for the Discovery of the Longitude at Sea, and for examining, trying, and judging of all Proposals, Experiments, and Improvements relating to the same.

WHEREAS we think fit to employ you to publish and vend, and to cause to be published and vended, the Nautical Almanacs and Astronomical Ephemerides for the Years 1769 and 1770, together with other useful Tables (constructed under our Direction) for facilitating the Method of discovering the Longitude at Sea, which will be printed by Messieurs RICHARDSON and CLARK of *Salisbury-court, Fleet-street*: We do therefore, in pursuance of the Power vested in us by Act of Parliament, hereby license, authorize, and empower you to publish and vend, and to cause to be published and vended, the said Nautical Almanacs and Astronomical Ephemerides, together with the other useful Tables above-mentioned. For which this shall be your sufficient Warrant. Given under our Hands and Seals this 18th of *June* 1768.

To Mr. JOHN NOURSE,
Bookseller in the *Strand*.

ED. HAWKE (L.S.)
JOHN CUST (L.S.)
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T. SALUSBURY (L.S.)
PH. STEPHENS (L.S.)
G. COKBURNE (L.S.)
R. LONG (L.S.)

By Command of the Commissioners,

JOHN IBBETSON, Secretary.

☞ A Licence was also granted to the like Effect to Mess.
JOHN MOUNT and THOMAS PAGE, Stationers on *Tower-hill*.

P R E F A C E.

THE Commissioners of Longitude, in pursuance of the Powers vested in them by a late Act of Parliament, present the Publick with the NAUTICAL ALMANAC and ASTRONOMICAL EPHEMERIS for the Year 1769, being the Third Impression, to be continued annually; a Work which must greatly contribute to the Improvement of Astronomy, Geography, and Navigation. This EPHEMERIS contains every Thing essential to general Use that is to be found in any Ephemeris hitherto published, with many other useful and interesting Particulars never yet offered to the Publick in any Work of this Kind, The Tables of the Moon had been brought by the late Professor MAYER of Gottingen to a sufficient Exactness to determine the Longitude at Sea, within a Degree, as appeared by the Trials of several Persons who made Use of them. The Difficulty and Length of the necessary Calculations seemed the only Obstacles to hinder them from becoming of general Use: To remove which this EPHEMERIS was made; the Mariner being hereby relieved from the Necessity of calculating the Moon's Place from the Tables, and afterwards computing the Distance to Seconds by Logarithms, which are the principal and only very delicate Part of the Calculus; so that the finding the Longitude by
the

P R E F A C E.

the Help of the EPHEMERIS is now in a Manner reduced to the Computation of the Time, an Operation equal to that of an Azimuth, and the Correction of the Distance on account of Refraction and Parallax, which is also rendered very easy by either of the Two Methods invented by Mr. LYONS and Mr. DUNTHORNE, and published among the Tables requisite to be used with the EPHEMERIS.

By Desire of the Commissioners of Longitude I drew up the Explanation and Use of the Articles contained in the EPHEMERIS, and the Instructions, with Examples, for finding the Longitude at Sea by the Help of the same. I also collected and calculated the Sixteen First Pages of Tables requisite to be used with the EPHEMERIS, and computed the Table of proportional Logarithms, which seemed to me absolutely necessary to clear this Method of any remaining Difficulty; and added Explanations of all the Tables, and a Correction, p. 49 and 50, which may be applied by the Curious to the Effect of Refraction on the Moon's Distance from a Star, found by Mr. LYONS, or any other Method, on account of the Barometer and Thermometer.

All the Calculations of the EPHEMERIS relating to the Sun and Moon were made from Mr. MAYER's last manuscript Tables, received by the Board of Longitude after his Decease, which have been printed under my Inspection, and will be published shortly. The Calculations of the Planets were made from Dr. HALLEY's Tables; and those of the Eclipses of Jupiter's Satellites from the Tables of Mr. WARGENTIN, published by M. DE LA LANDE in 1759, except those of the Fourth Satellite,

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lite, which were calculated from the Tables of the same further improved by Mr. WARGENTIN, and published also by M. DE LA LANDE in the CONNOISSANCE DES MOUVEMENTS CELESTES of 1766.

All the Articles of the EPHEMERIS were computed by Two separate Persons, and examined by a Third, except the Moon's Longitude, Latitude, Right Ascension, Declination, Semidiameter, and Parallax, which, for Noon, were computed by One Person, and for Midnight by another, and the Truth of these Calculations ascertained by means of Differences, which, for the Moon's Longitude, were carried as far as the Fourth Order.

NEVIL MASKELYNE,
ASTRONOMER ROYAL.

E X P L A -

EXPLANATION of the Characters used in the EPHEMERIS.

The PLANETS, &c.

- | | |
|---|------------|
| ☉ The Sun. | ♂ Mars. |
| ☾ The Moon. | ♃ Jupiter. |
| ☿ Mercury. | ♄ Saturn. |
| ♀ Venus. | |
| ♊ The Moon's, or any other Planet's Ascending Node. | |
| ♋ The Descending Node. | |
| ♌ Conjunction, or Planets situated in the same Longitude. | |
| ♍ Opposition, or Planets situated in opposite Longitudes, or differing 6 Signs from each other. | |

Signs of the Zodiac.

- | | |
|-----------|----------------|
| ♈ Aries. | ♎ Libra. |
| ♉ Taurus. | ♏ Scorpio. |
| ♊ Gemini. | ♐ Sagittarius. |
| ♋ Cancer. | ♑ Capricornus. |
| ♌ Leo. | ♒ Aquarius. |
| ♍ Virgo. | ♓ Pisces. |

		Obliquity of Ecliptic.		Equat. of Equinoct. Points.	
1769.		° ' "			"
Jan. 1.	_____	23. 28. 10,5	_____	+18,0	
Apr. 1.	_____	23. 28. 9,6	_____	+18,0	
July 1.	_____	23. 28. 8,7	_____	+17,9	
Oct. 1.	_____	23. 28. 7,7	_____	+17,6	
Dec. 31.	_____	23. 28. 6,8	_____	+17,2	

a ECLIPSES

ECLIPSES for the YEAR 1769.

Jan. 7. ☉ eclipsed, invisible in Europe :

♂ at 14^h. 34'. in 9°. 18'. 13'; ♀'s Lat. 1°. 22'. North.

This Eclipse will be visible in Places to the North East of Siberia.

June 3. ☉ visibly eclipsed :

Beginning	_____	18. 37 $\frac{1}{2}$
Middle	_____	19. 31
End	_____	20. 24 $\frac{1}{2}$
Digits eclipsed	_____	6° $\frac{1}{2}$

N. B. According to civil reckoning, the beginning will be June 4, at 6^h. 37 $\frac{1}{2}$. A. M. the middle June 4, at 7^h. 31'. A. M. and the end June 4, at 8^h. 24 $\frac{1}{2}$. A. M.

June 18. ♀ totally eclipsed, invisible in Europe :

Beginning of the Eclipse	_____	18. 22 $\frac{5}{8}$
Beginning of total Darkness	_____	19. 51 $\frac{1}{4}$
Middle	_____	20. 9 $\frac{3}{4}$
End of total Darkness	_____	20. 28 $\frac{1}{4}$
End of the Eclipse	_____	21. 57
Digits eclipsed	_____	12° $\frac{1}{2}$

This Eclipse will be seen in the western parts of America.

Nov. 27. ☉ eclipsed, invisible in Europe :

♂ at 20^h. 19', in 8°. 6°. 28'; ♀'s Lat. 46' South.

This Eclipse will be seen in the southern parts of Asia and Africa.

Dec. 12. ♀ visibly eclipsed :

Beginning	_____	16. 56
Middle	_____	18. 21 $\frac{1}{2}$
End	_____	19. 46 $\frac{3}{4}$
Digits eclipsed	_____	9° $\frac{1}{4}$

J A N U A R Y 1769.

[1]

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.	
			D. H. '	
1	Su.	1st Su. after Circumcision.	New Moon—	7. 14. 33
2	M.		First Quarter—	14. 20. 13
3	Tu.		Full Moon—	21. 15. 46
4	W.		Last Quarter—	29. 8. 12
5	Th.		Other Phenomena.	
6	F.	Epiphany.	D.	
7	Sa.		3. ♀ γ ♄ diff. Lat. 46'.	
8	Su.	1st Sunday after Epiph. [Lucian.	4. ♀ δ ♄ diff. Lat. 48'.	
9	M.		5. ☾ θ Ophiuchi 4h. 22'.	
10	Tu.		☾ β Ophiuchi 6h. 12'.	
11	W.		7. ☉ eclipsed invisible.	
12	Th.		8. ♀ ι ♄ diff. Lat. 24'.	
13	F.	Hilar. Camb. Ter. begins.	14. ☾ η ♄ 16h. 49'.	
14	Sa.	Oxford Term begins.	17. ☾ π Pleiadum 0h. 48'.	
15	Su.	2d Sunday after Epiph.	18. ☾ infra cornu bor. 22h. 51'.	
16	M.		19. ☉ enters ♄ at 4h. 2'.	
17	Tu.	[kept. Prisca.	♀ λ ♄ diff. Lat. 56'.	
18	W.	Q. Charlotte's birth-day	☾ η II 8h. 49'.	
19	Th.	[Hilary, 1 ret.	☾ μ II 11h. 56'.	
20	F.	Fabian. In 8 days St.	☾ δ II 10h. 16'.	
21	Sa.	Agnes. [cent.	☾ ξ Ω 19h. 35'.	
22	Su.	Septuagesima-Sun. Vin-	☾ ζ Ω 1h. 41'.	
23	M.	Hilary Term begins.	☾ π Ω 9h. 14'.	
24	Tu.		♀ φ ♄ diff. Lat. 6'.	
25	W.	Conversion of St. Paul.	☾ ε Ω 7h. 24'.	
26	Th.		30. ☾ δ ♄ 22h. 45'.	
27	F.	From St. Hil. in 15 days,		
28	Sa.	[2 ret.		
29	Su.	Sexagesima-Sunday.		
30	M.	K. Charles I. martyr.		
31	Tu.			

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time Add.	Diff.
		s o ' "	h ' "	o ' "	' "	"
1	Sa.	9. 11. 29. 5	18. 49. 57	22. 58. 21	4.20,9	
2	M.	9. 12. 30. 17	18. 54. 22	22. 52. 51	4.48,9	28,0
3	Tu.	9. 13. 31. 29	18. 58. 47	22. 46. 54	5.16,7	27,8
4	W.	9. 14. 32. 41	19. 3. 11	22. 40. 30	5.44,1	27,4
5	Th.	9. 15. 33. 53	19. 7. 34	22. 33. 38	6.10,9	26,8
						26,4
6	F.	9. 16. 35. 5	19. 11. 57	22. 26. 19	6.37,3	26,0
7	Sa.	9. 17. 36. 17	19. 16. 20	22. 18. 35	7. 3,3	25,4
8	Sa.	9. 18. 37. 28	19. 20. 42	22. 10. 25	7.28,7	24,9
9	M.	9. 19. 38. 39	19. 25. 3	22. 1. 47	7.53,6	24,3
10	Tu.	9. 20. 39. 49	19. 29. 24	21. 52. 44	8.17,9	23,7
11	W.	9. 21. 40. 59	19. 33. 44	21. 43. 15	8.41,6	23,0
12	Th.	9. 22. 42. 8	19. 38. 4	21. 33. 21	9. 4,5	22,4
13	F.	9. 23. 43. 16	19. 42. 23	21. 23. 2	9.27,0	21,7
14	Sa.	9. 24. 44. 23	19. 46. 41	21. 12. 19	9.48,7	21,1
15	Sa.	9. 25. 45. 30	19. 50. 59	21. 1. 12	10. 9,8	20,3
16	M.	9. 26. 46. 35	19. 55. 16	20. 49. 40	10.30,1	19,5
17	Tu.	9. 27. 47. 39	19. 59. 32	20. 37. 45	10.49,5	18,8
18	W.	9. 28. 48. 43	20. 3. 47	20. 25. 26	11. 8,4	18,0
19	Th.	9. 29. 49. 45	20. 8. 2	20. 12. 44	11.26,4	17,3
20	F.	10. 0. 50. 46	20. 12. 16	19. 59. 40	11.43,7	16,5
21	Sa.	10. 1. 51. 46	20. 16. 29	19. 46. 14	12. 0,2	15,7
22	Sa.	10. 2. 52. 45	20. 20. 41	19. 32. 25	12.15,9	14,9
23	M.	10. 3. 53. 43	20. 24. 53	19. 18. 15	12.30,8	14,1
24	Tu.	10. 4. 54. 40	20. 29. 4	19. 3. 44	12.44,9	13,4
25	W.	10. 5. 55. 37	20. 33. 14	18. 48. 52	12.58,3	12,6
26	Th.	10. 6. 56. 33	20. 37. 23	18. 33. 39	13.10,9	11,7
27	F.	10. 7. 57. 28	20. 41. 31	18. 18. 6	13.22,6	10,9
28	Sa.	10. 8. 58. 22	20. 45. 38	18. 2. 13	13.33,5	10,2
29	Sa.	10. 9. 59. 16	20. 49. 45	17. 46. 0	13.43,7	9,4
30	M.	10. 11. 0. 9	20. 53. 51	17. 29. 29	13.53,1	8,5
31	Tu.	10. 12. 1. 1	20. 57. 56	17. 12. 39	14. 1,6	7,8

J A N U A R Y 1769.

[3]

Days.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	' "	' "	' "		' " "
1	16. 19. 2	1. 10. 9	2. 32. 9	9. 992651	9. 2. 45
7	16. 19. 1	1. 10. 5	2. 32. 8	9. 992739	9. 2. 26
13	16. 18. 8	1. 10. 1	2. 32. 7	9. 992880	9. 2. 7
19	16. 18. 2	1. 9. 5	2. 32. 6	9. 993095	9. 1. 48
25	16. 17. 5	1. 8. 9	2. 32. 3	9. 993404	9. 1. 29

Eclipses of the SATELLITES of J U P I T E R.

I. Satellite. Immerfions.			II. Satellite.			III. Satellite.		
D.	' "		D.	' "		D.	' "	
1	19. 16. 53		2	2. 50. 56	I	4	13. 1. 45	I
3	13. 44. 21		5	16* 6. 54	I	4	14. 46. 38	E
5	8. 11. 50		9	5. 22. 57	I	11	16* 56. 23	I
7	2. 39. 21		12	18* 39. 0	I	11	18* 40. 52	E
8	21. 6. 54		12	21. 6. 25	E	18	20. 51. 25	I
10	15* 34. 25		16	7. 55. 13	I	18	22. 35. 28	E
12	10. 2. 3		16	10. 22. 40	E	26	0. 47. 6	I
14	4. 29. 37		19	21. 11. 24	I	26	2. 30. 45	E
15	22. 57. 21		19	23. 38. 48	E	IV. Satellite. Conj.		
17	17* 25. 4		23	10. 27. 46	I			
19	11. 52. 49		23	12. 55. 11	E	6	7. 4	infr.
21	6. 20. 36		26	23. 44. 11	I	14	16. 0	supr.
23	0. 48. 26		27	2. 11. 36	E	23	0. 55	infr.
24	19. 16. 15		30	13. 0. 46	I	31	9. 50	supr.
26	13. 44. 10		30	15* 28. 10	E			
28	8. 12. 8							
30	2. 40. 8							
31	21. 8. 10							

[4] J A N U A R Y 1769.

Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lat- tude.	Geocen- tric Lon- gitude.	Geocen- tric La- titude.	Declina- tion.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /

M E R C U R Y. sup. ♂ 28^d. 8^h.

1	7. 19. 32	0. 28 S	8. 25. 37	0. 10 S	23. 33 S	22. 53
7	8. 6. 17	2. 28	9. 4. 37	0. 50	24. 13	23. 6
13	8. 22. 47	4. 13	9. 13. 56	1. 24	24. 8	23. 21
19	9. 9. 45	5. 40	9. 23. 32	1. 49	23. 12	23. 38
25	9. 27. 59	6. 40	10. 3. 30	2. 2	21. 23	23. 56

V E N U S.

1	0. 6. 20	3. 9 S	10. 16. 2	1. 48 S	17. 46 S	2. 26
7	0. 15. 54	2. 54	10. 23. 22	1. 42	15. 21	2. 29
13	0. 25. 29	2. 34	11. 0. 40	1. 32	12. 41	2. 31
19	1. 5. 4	2. 9	11. 7. 55	1. 20	9. 51	2. 32
25	1. 14. 40	1. 41	11. 15. 8	1. 5	6. 52	2. 34

M A R S.

1	2. 10. 11	0. 42 N	1. 3. 43	1. 14 N	13. 56 N	7. 13
7	2. 13. 16	0. 47	1. 5. 54	1. 19	14. 46	6. 55
13	2. 16. 19	0. 52	1. 8. 15	1. 24	15. 37	6. 39
19	2. 19. 21	0. 57	1. 10. 54	1. 27	16. 29	6. 24
25	2. 22. 20	1. 2	1. 13. 39	1. 30	17. 23	6. 9

J U P I T E R.

1	7. 8. 29	1. 9 N	7. 16. 59	1. 3 N	15. 56 N	20. 6
7	7. 8. 57	1. 8	7. 17. 57	1. 3	16. 12 S	19. 43
13	7. 9. 24	1. 8	7. 18. 52	1. 4	16. 25	19. 21
19	7. 9. 52	1. 7	7. 19. 43	1. 5	16. 39	18. 59
25	7. 10. 20	1. 7	7. 20. 28	1. 6	16. 50	18. 37

S A T U R N. ♂ 4^d. at Noon.

1	3. 14. 26	0. 18 S	3. 14. 47	0. 21 S	22. 18 N	12. 12
7	3. 14. 39	0. 18	3. 14. 18	0. 20	22. 22	11. 44
13	3. 14. 53	0. 17	3. 13. 48	0. 19	22. 26	11. 16
19	3. 15. 6	0. 17	3. 13. 20	0. 18	22. 29	10. 48
25	3. 15. 20	0. 16	3. 12. 53	0. 17	22. 32	10. 21

J A N U A R Y 1769.

[5]

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		s o ' "	s o ' "	o ' "	o ' "
1	Sw.	6. 28. 20. 24	7. 4. 15. 51	4. 47. 20 S	4. 31. 49 S
2	M.	7. 10. 10. 46	7. 16. 5. 42	4. 13. 31	3. 52. 25
3	Tu.	7. 22. 1. 4	7. 27. 57. 33	3. 28. 56	3. 3. 3
4	W.	8. 3. 55. 27	8. 9. 55. 24	2. 35. 5	2. 5. 17
5	Th.	8. 15. 57. 32	8. 22. 2. 20	1. 33. 52	1. 1. 13 S
6	F.	8. 28. 9. 55	9. 4. 20. 43	0. 27. 38 S	0. 6. 37 N
7	Sa.	9. 10. 34. 43	9. 16. 52. 15	0. 40. 58 N	1. 15. 13
8	Su.	9. 23. 13. 17	9. 29. 37. 49	1. 48. 47	2. 21. 17
9	M.	10. 6. 5. 59	10. 12. 37. 36	2. 52. 20	3. 21. 14
10	Tu.	10. 19. 12. 42	10. 25. 51. 14	3. 47. 46	4. 11. 28
11	W.	11. 2. 33. 5	11. 9. 17. 58	4. 31. 57	4. 48. 47
12	Th.	11. 16. 5. 58	11. 22. 56. 47	5. 1. 43	5. 10. 25
13	F.	11. 29. 50. 22	0. 6. 46. 32	5. 14. 45	5. 14. 35
14	Sa.	0. 13. 45. 8	0. 20. 46. 0	5. 9. 42	5. 0. 11
15	Su.	0. 27. 48. 56	1. 4. 53. 48	4. 46. 6	4. 27. 39
16	M.	1. 12. 0. 18	1. 19. 8. 14	4. 4. 58	3. 38. 28
17	Tu.	1. 26. 17. 20	2. 3. 27. 11	3. 8. 29	2. 35. 29
18	W.	2. 10. 37. 32	2. 17. 47. 52	2. 0. 2	1. 22. 41
19	Th.	2. 24. 57. 47	3. 2. 6. 39	0. 44. 4 N	0. 4. 53 N
20	F.	3. 9. 14. 0	3. 16. 19. 20	0. 34. 12 S	1. 12. 28 S
21	Sa.	3. 23. 21. 54	4. 0. 21. 22	1. 49. 21	2. 24. 26
22	Su.	4. 7. 17. 7	4. 14. 8. 42	2. 56. 57	3. 26. 30
23	M.	4. 20. 55. 46	4. 27. 37. 56	3. 52. 47	4. 15. 32
24	Tu.	5. 4. 15. 8	5. 10. 47. 14	4. 34. 27	4. 49. 36
25	W.	5. 17. 14. 10	5. 23. 36. 7	5. 0. 45	5. 8. 4
26	Th.	5. 29. 53. 15	6. 6. 5. 58	5. 11. 31	5. 11. 16
27	F.	6. 12. 14. 27	6. 18. 19. 21	5. 7. 26	5. 0. 6
28	Sa.	6. 24. 21. 2	7. 0. 20. 6	4. 49. 35	4. 35. 51
29	Su.	7. 6. 17. 10	7. 12. 12. 49	4. 19. 19	4. 0. 0
30	M.	7. 18. 7. 44	7. 24. 2. 36	3. 38. 12	3. 14. 6
31	Tu.	7. 29. 58. 2	8. 5. 54. 33	2. 47. 59	2. 19. 39

[6] J A N U A R Y 1769.

Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declination at Noon.	D's Declination at Midn.
			h /	o /	o /	o /	o /
1	Su.	25	19. 23	204. 33	210. 24	15. 22 S	17. 13 S
2	M.	26	20. 8	216. 21	222. 26	18. 54	20. 23
3	Tu.	27	20. 56	228. 38	234. 58	21. 39	22. 42
4	W.	28	21. 46	241. 24	247. 56	23. 30	24. 2
5	Th.	29	22. 37	254. 34	261. 16	24. 17	24. 15
6	F.	30	23. 28	268. 0	274. 44	23. 55	23. 17
7	Sa.	1	♂	281. 27	288. 8	22. 22	21. 9
8	Su.	2	0. 19	294. 45	301. 17	19. 41	17. 57
9	M.	3	1. 8	307. 45	314. 8	15. 59	13. 49
10	Tu.	4	1. 56	320. 26	326. 41	11. 28	8. 58
11	W.	5	2. 43	332. 53	339. 4	6. 21	3. 38 S
12	Th.	6	3. 30	345. 16	351. 29	0. 51 S	1. 57 N
13	F.	7	4. 17	357. 46	4. 8	4. 45 N	7. 30
14	Sa.	8	5. 6	10. 37	17. 15	10. 11	12. 45
15	Su.	9	5. 58	24. 3	31. 3	15. 9	17. 22
16	M.	10	6. 53	38. 14	45. 37	19. 20	21. 2
17	Tu.	11	7. 52	53. 10	60. 53	22. 24	23. 25
18	W.	12	8. 53	68. 43	76. 36	24. 3	24. 17
19	Th.	13	9. 54	84. 29	92. 18	24. 6	23. 32
20	F.	14	10. 53	100. 0	107. 33	22. 35	21. 16
21	Sa.	15	11. 49	114. 53	122. 1	19. 39	17. 45
22	Su.	16	12. 41	128. 55	135. 36	15. 37	13. 19
23	M.	17	13. 29	142. 4	148. 20	10. 52	8. 19
24	Tu.	18	14. 14	154. 28	160. 26	5. 42	3. 4 N
25	W.	19	14. 58	166. 19	172. 6	0. 26 N	2. 10 S
26	Th.	20	15. 41	177. 49	183. 32	4. 43 S	7. 11
27	F.	21	16. 24	189. 14	194. 57	9. 33	11. 49
28	Sa.	22	17. 8	200. 43	206. 33	13. 56	15. 54
29	Su.	23	17. 53	212. 28	218. 28	17. 42	19. 19
30	M.	24	18. 40	224. 35	230. 48	20. 44	21. 56
31	Tu.	25	19. 29	237. 8	243. 34	22. 54	23. 37

J A N U A R Y 1769.

[7]

Days of the Month.	Days of the Week.	Semid ^r . D at Noon.	Semid ^r . D at Mid- night.	Hor.Par. D at Noon.	Hor. Par. D at Midnight.	gar. at Noon. Propor. Lo.	gar. at Midn. Propor. Lo.
		/ //	/ //	/ //	/ //		
1	Su.	14. 49	14. 48	54. 24	54. 20	5197	5202
2	M.	14. 48	14. 48	54. 18	54. 19	5205	5203
3	Tu.	14. 49	14. 50	54. 22	54. 26	5199	5194
4	W.	14. 52	14. 54	54. 33	54. 42	5185	5173
5	Th.	14. 57	15. 0	54. 52	55. 4	5159	5144
6	F.	15. 4	15. 7	55. 16	55. 30	5128	5110
7	Sa.	15. 11	15. 15	55. 44	55. 59	5091	5072
8	Su.	15. 19	15. 24	56. 14	56. 30	5053	5032
9	M.	15. 28	15. 32	56. 45	57. 0	5013	4994
10	Tu.	15. 36	15. 40	57. 15	57. 30	4974	4956
11	W.	15. 44	15. 48	57. 44	57. 59	4938	4919
12	Th.	15. 51	15. 55	58. 12	58. 25	4903	4887
13	F.	15. 58	16. 2	58. 37	58. 49	4872	4858
14	Sa.	16. 5	16. 8	59. 0	59. 11	4844	4831
15	Su.	16. 10	16. 13	59. 20	59. 29	4820	4809
16	M.	16. 15	16. 16	59. 37	59. 43	4799	4792
17	Tu.	16. 17	16. 18	59. 47	59. 49	4787	4784
18	W.	16. 18	16. 18	59. 50	59. 48	4783	4786
19	Th.	16. 17	16. 15	59. 44	59. 38	4790	4798
20	F.	16. 13	16. 9	59. 29	59. 17	4808	4823
21	Sa.	16. 5	16. 1	59. 2	58. 46	4842	4861
22	Su.	15. 56	15. 50	58. 28	58. 8	4883	4908
23	M.	15. 45	15. 39	57. 47	57. 25	4934	4962
24	Tu.	15. 33	15. 27	57. 3	56. 41	4990	5018
25	W.	15. 21	15. 16	56. 20	56. 0	5045	5071
26	Th.	15. 10	15. 5	55. 41	55. 23	5095	5119
27	F.	15. 1	14. 58	55. 8	54. 55	5138	5155
28	Sa.	14. 55	14. 52	54. 43	54. 35	5171	5182
29	Su.	14. 51	14. 50	54. 29	54. 25	5190	5195
30	M.	14. 49	14. 50	54. 24	54. 26	5196	5194
31	Tu.	14. 51	14. 53	54. 30	54. 37	5188	5179

[8]

J A N U A R Y 1769.

Distances of γ 's Center from $\odot$, and from Stars east of her.					
Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "
1	The Sun.	73. 12. 19	71. 51. 15	70. 30. 13	69. 9. 13
2		62. 24. 25	61. 3. 27	59. 42. 26	58. 21. 23
3		51. 35. 27	50. 14. 2	48. 52. 31	47. 30. 55
4		40. 41. 11	39. 18. 52		
9	α Arietis.	87. 52. 15	86. 14. 59	84. 37. 30	82. 59. 50
10		74. 48. 33	73. 9. 46	71. 30. 48	69. 51. 40
11		61. 33. 20	59. 53. 12	58. 12. 56	56. 32. 31
12		48. 8. 19			
12	Aldebaran.	81. 2. 19	79. 21. 14	77. 39. 59	75. 58. 35
13		67. 29. 25	65. 47. 11	64. 4. 49	62. 22. 21
14		53. 48. 19	52. 5. 13	50. 22. 4	48. 38. 51
15		40. 2. 15	38. 18. 57	36. 35. 42	34. 52. 34
16	Pollux.	26. 20. 5			
16		67. 44. 32	65. 59. 3	64. 13. 29	62. 27. 50
17		53. 38. 58	51. 53. 9	50. 7. 22	48. 21. 36
18	Regulus.	39. 33. 57			
18		75. 59. 52	74. 12. 23	72. 24. 50	70. 37. 16
19		61. 39. 51	59. 52. 33	58. 5. 20	56. 18. 14
20		47. 24. 28	45. 38. 9	43. 52. 2	42. 6. 8
21		33. 20. 21	31. 36. 5	29. 52. 9	28. 8. 35
22	Spica μ	19. 38. 9	17. 58. 11	16. 19. 10	14. 41. 13
23		59. 38. 9	57. 57. 23	56. 16. 57	54. 36. 51
24		46. 21. 33	44. 43. 32	43. 5. 51	41. 28. 32
25		33. 27. 18	31. 52. 7	30. 17. 17	28. 42. 50
26	Antares.	20. 56. 5	19. 23. 56	17. 52. 14	16. 20. 58
27		54. 5. 45	52. 34. 40	51. 3. 48	49. 33. 8
28		42. 2. 43	40. 33. 9	39. 3. 44	37. 34. 27
29	The Sun.	30. 9. 53	28. 41. 17	27. 12. 46	25. 44. 21
27		115. 36. 24	114. 12. 56	112. 49. 41	111. 26. 37
28		104. 34. 8	103. 12. 8	101. 50. 16	100. 28. 32
29		93. 41. 28	92. 20. 18	90. 59. 12	89. 38. 8
30		82. 53. 17	81. 32. 19	80. 11. 19	78. 50. 17
31		72. 4. 19	70. 42. 55	69. 21. 25	67. 59. 49

JANUARY 1769.

[9]

Distances of γ 's Center from $\odot$, and from Stars east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	The Sun.	67. 48. 14	66. 27. 17	65. 6. 20	63. 45. 22
2		57. 0. 18	55. 39. 11	54. 18. 1	52. 56. 46
3		46. 9. 12	44. 47. 23	43. 25. 26	42. 3. 22
9	α Arietis.	81. 21. 57	79. 43. 53	78. 5. 37	76. 27. 11
10		68. 12. 21	66. 32. 50	64. 53. 10	63. 13. 20
11		54. 51. 57	53. 11. 15	51. 30. 25	49. 49. 26
12	Aldebaran.	74. 17. 2	72. 35. 20	70. 53. 30	69. 11. 31
13		60. 39. 45	58. 57. 2	57. 14. 13	55. 31. 19
14		46. 55. 35	45. 12. 15	43. 28. 55	41. 45. 35
15	Pollux.	33. 9. 34	31. 26. 45	29. 44. 11	28. 1. 56
16		60. 42. 8	58. 56. 23	57. 10. 36	55. 24. 48
17		46. 35. 53	44. 50. 15	43. 4. 42	41. 19. 15
18	Regulus.	68. 49. 41	67. 2. 9	65. 14. 40	63. 27. 14
19		54. 31. 13	52. 44. 19	50. 57. 34	49. 10. 57
20		40. 20. 26	38. 34. 59	36. 49. 49	35. 4. 56
21		26. 25. 26	24. 42. 43	23. 0. 32	21. 18. 58
22		13. 4. 27			
22	Spica α	66. 24. 34	64. 42. 27	63. 0. 41	61. 19. 15
23		52. 57. 6	51. 17. 42	49. 38. 38	47. 59. 55
24		39. 51. 34	38. 14. 58	36. 38. 43	35. 2. 50
25		27. 8. 44	25. 34. 59	24. 1. 37	22. 28. 39
26		14. 50. 9			
26	Antares.	60. 12. 22	58. 40. 21	57. 8. 35	55. 37. 3
27		48. 2. 40	46. 32. 24	45. 2. 20	43. 32. 27
28		36. 5. 19	34. 36. 18	33. 7. 23	31. 38. 35
29		24. 15. 59			
26		121. 12. 29	119. 48. 7	118. 23. 59	117. 0. 5
27		110. 3. 46	108. 41. 6	107. 18. 37	105. 56. 17
28	The Sun.	99. 6. 56	97. 45. 26	96. 24. 1	95. 2. 42
29		88. 17. 8	86. 56. 10	85. 35. 12	84. 14. 14
30		77. 29. 13	76. 8. 6	74. 46. 54	73. 25. 39
31		66. 38. 7	65. 16. 17	63. 54. 19	62. 32. 11

[10] J A N U A R Y 1769.

Distances of ☿'s Center from Stars, and from ☉ west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1 2	Regulus.	61. 51. 47 73. 37. 56	63. 20. 7	64. 48. 25	66. 16. 41
2 3 4 5 6	Spica ♏	19. 38. 49 31. 23. 19 43. 16. 1 55. 18. 24 67. 32. 21	21. 6. 27 32. 51. 57 44. 45. 45 56. 49. 29	22. 34. 12 34. 20. 43 46. 15. 38 58. 20. 46	24. 2. 5 35. 49. 37 47. 45. 41 59. 52. 13
11 12 13 14 15 16 17	The Sun.	41. 4. 32 53. 33. 42 66. 13. 29 79. 3. 28 92. 3. 0 105. 11. 21 118. 26. 53	42. 37. 34 55. 8. 6 67. 49. 11 80. 40. 24 93. 41. 6 106. 50. 26 120. 6. 43	44. 10. 47 56. 42. 39 69. 25. 2 82. 17. 29 95. 19. 19 108. 29. 37	45. 44. 10 58. 17. 23 71. 1. 4 83. 54. 43 96. 57. 41 110. 8. 55
15 16 17	α Pegasi.	39. 23. 18 52. 40. 38 66. 21. 34	41. 1. 1 54. 22. 15	42. 39. 25 56. 4. 12	44. 18. 25 57. 46. 27
17 18 19	α Arietis.	22. 44. 16 36. 49. 20 51. 4. 17	24. 28. 40 38. 35. 57	26. 13. 35 40. 22. 39	27. 58. 53 42. 9. 28
19 20 21 22	Aldeba- ran.	19. 23. 28 32. 58. 25 46. 49. 42 60. 34. 50	21. 2. 51 34. 42. 12 48. 33. 25 62. 17. 3	22. 43. 9 36. 26. 5 50. 17. 0 63. 59. 1	24. 24. 15 38. 10. 2 52. 0. 26 65. 40. 43
23 24	Pollux.	32. 35. 12 45. 32. 19	34. 12. 41 47. 8. 41	35. 50. 9 48. 44. 49	37. 27. 34 50. 20. 41
25 26 27 28 29	Regulus.	21. 17. 42 33. 41. 27 45. 53. 32 57. 53. 40 69. 45. 10	22. 51. 2 35. 13. 40 47. 24. 9 59. 22. 59	24. 24. 22 36. 45. 42 48. 54. 35 60. 52. 10	25. 57. 35 38. 17. 32 50. 24. 52 62. 21. 15
29 30 31	Spica ♏	15. 47. 57 27. 30. 45 39. 18. 35	17. 15. 26 28. 58. 57 40. 47. 28	18. 43. 3 30. 27. 13 42. 16. 28	20. 10. 48 31. 55. 34 43. 45. 35

JANUARY 1769.

[11]

Distances of ☽'s Center from Stars, and from ☉ west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	Regulus.	67. 44. 56	69. 13. 10	70. 41. 24	72. 9. 39
2	Spica ♏	25. 30. 5	26. 58. 12	28. 26. 27	29. 54. 49
3		37. 18. 39	38. 47. 48	40. 17. 3	41. 46. 28
4		49. 15. 54	50. 46. 16	52. 16. 48	53. 47. 31
5		61. 23. 52	62. 55. 42	64. 27. 44	65. 59. 57
10	The Sun.				39. 31. 40
11		47. 17. 43	48. 51. 27	50. 25. 22	51. 59. 27
12		59. 52. 16	61. 27. 20	63. 2. 33	64. 37. 56
13		72. 37. 14	74. 13. 34	75. 50. 3	77. 26. 41
14		85. 32. 5	87. 9. 36	88. 47. 15	90. 25. 3
15		98. 36. 11	100. 14. 45	101. 53. 32	103. 32. 23
16		111. 48. 19	113. 27. 50	115. 7. 26	116. 47. 7
14	α Pegasi.	33. 0. 32	34. 34. 49	36. 10. 7	37. 46. 18
15		45. 57. 58	47. 37. 59	49. 18. 27	50. 59. 21
16		59. 29. 1	61. 11. 50	62. 54. 52	64. 38. 8
17	α Arietis.	29. 44. 31	31. 30. 25	33. 16. 31	35. 2. 50
18		43. 56. 22	45. 43. 19	47. 30. 18	49. 17. 17
19	Aldebaran.	26. 6. 4	27. 48. 30	29. 31. 26	31. 14. 47
20		39. 54. 2	41. 38. 1	43. 21. 58	45. 5. 52
21		53. 43. 44	55. 26. 49	57. 9. 42	58. 52. 22
22		67. 22. 8			
22	Pollux.	26. 5. 53	27. 43. 2	29. 20. 20	30. 57. 44
23		39. 4. 52	40. 42. 0	42. 18. 57	43. 55. 43
24		51. 56. 17			
24	Regulus.	15. 5. 43	16. 38. 22	18. 11. 18	19. 44. 26
25		27. 30. 42	29. 3. 40	30. 36. 27	32. 9. 2
26		39. 49. 10	41. 20. 33	42. 51. 45	44. 22. 44
27		51. 54. 56	53. 24. 51	54. 54. 36	56. 24. 12
28		63. 50. 12	65. 19. 4	66. 47. 50	68. 16. 33
29	Spica ♏	21. 38. 38	23. 6. 32	24. 34. 32	26. 2. 37
30		33. 23. 59	34. 52. 30	36. 21. 6	37. 49. 48
31		45. 14. 50	46. 44. 14	48. 13. 48	49. 43. 31

[12] JANUARY 1769.

Configurations of the SATELLITES of JUPITER
at 6 o' th' Clock in the Morning.

1	4.	3 6 1	⊙	.2	
2	4.		⊙	1.	2 6 3
3	4.	2.	⊙		.3 1.0
4	4.		⊙	1.	.2 3.
5	3 ●	4.	⊙	.1	.2
6	2 ●	3. 4.	⊙	1.	
7	4.0	.3 .2	⊙	1.	
8		.3.1	⊙	.2	.4
9			⊙	.3 2.	.4
10		2.	⊙	.1	.3 .4
11	1 ●	.2	⊙		.4
12	3 ●		⊙	.1	.2 4.
13		3. 1.	⊙	2.	.4
14		3. 2.	⊙	.1	.4
15	2.0	.3 .1	⊙	4.	
16		4.	⊙	.3 1.	2.
17		4. 2.	⊙	.1	.3
18	4.	.2	⊙		.3 1 ●
19	4.		⊙	.1 3.	.2
20	4.	3. 1.	⊙	2.	
21	4.	3. 2.	⊙	.1	
22	2.0	4. 3.	⊙	1.	
23	3.0	.4	⊙	1. 2.	
24		.1 2.	⊙	.4	.3
25		.2	⊙	1.	.4 3.
26	1.0		⊙		3 6 2 .4
27		3. 1.	⊙	2.	.4
28		3. 2.	⊙	.1	.4
29		.3 1.	⊙	.2	.4
30			⊙	.3 .1	.2 .4
31	2 ●	.1	⊙		.3 .4

F E B R U A R Y 1769. [13]

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.	
				D. H. /
1	W.		New Moon —	6. 5. 58
2	Th.	Purification of V. Mary	First Quarter —	13. 3. 56
3	F.	Blas. On mor. of Pur.	Full Moon —	20. 5. 46
4	Sa.	[3 ret.	Last Quarter —	28. 5. 34
5	Su.	Quinquages. or Shrove-	Other Phenomena.	
6	M.	[Sunday. Agath.		
7	Tu.		D.	
8	W.	Ash-Wednesday.	1. ☾ θ Ophiuchi	12 ^h . 33 ['] .
9	Th.	In 8 days of Pur. 4 ret.	☾ B Ophiuchi	14 ^h . 23 ['] .
10	F.		2. ☿ ♄ ♀ diff. Lat.	15 ['] .
11	Sa.		3. ☾ ♀ 10 ^h . 33 ['] .	
12	Su.	1st Sun. in Lent. Term	☾ π ♀ 12 ^h . 58 ['] .	
13	M.	[ends.	10. ☾ η ✕ 22 ^h . 10 ['] .	
14	Tu.	Valentine.	13. ☿ λ ☿ diff. Lat.	27 ['] .
15	W.		☾ η Pleiadum	6 ^h . 21 ['] .
16	Th.		15. ☾ infra Cornu bor.	8
17	F.		5 ^h . 25 ['] .	
18	Sa.		☾ η II 15 ^h . 40 ['] .	
19	Su.	2d Sunday in Lent.	☾ u II 18 ^h . 52 ['] .	
20	M.		16. ☾ η 11 ^h . 20 ['] . diff. Lat.	
21	Tu.		37 ['] .	
22	W.		☾ ζ II 11 ^h . 40 ['] .	
23	Th.		17. ☉ centers ✕ at 18 ^h . 56 ['] .	
24	F.	St. Matthias.	18. ♀ ☿ ✕ diff. Lat.	37 ['] .
25	Sa.		19. ☾ ξ Ω 4 ^h . 21 ['] .	
26	Su.	3d Sunday in Lent.	☾ ♀ Ω 10 ^h . 32 ['] .	
27	M.		☾ π Ω 18 ^h . 7 ['] .	
28	Tu.		20. ☿ ζ ✕ diff. Lat.	50 ['] .
			21. ☾ ε Ω Im. 16 ^h . 11 ['] ₂ .	
			Em. 17 ^h . 7 ['] ₂ .	
			27. ☾ δ III 6 ^h . 59 ['] .	
			28. ☾ θ Ophiuchi	21 ^h . 4 ['] .
			☾ B Ophiuchi	22 ^h . 55 ['] .

[14]

[illegible]

F E B R U A R Y 1769. [15]

Days of the Month.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	/' //	/' //	/' //		
1	16. 16, 4	1. 8, 1	2. 32, 1	9. 993879	9. 1. 7
7	16. 15, 4	1. 7, 4	2. 31, 8	9. 994346	9. 0. 48
13	16. 14, 2	1. 6, 7	2. 31, 4	9. 994852	9. 0. 29
19	16. 13, 0	1. 6, 1	2. 30, 9	9. 995413	9. 0. 10
25	16. 11, 6	1. 5, 6	2. 30, 4	9. 996043	8. 29. 51

Eclipses of the SATELLITES of J U P I T E R.

I. Satellite. Immersion.				II. Satellite.				III. Satellite.			
Days	h	'	''	Days	h	'	''	Days	h	'	''
2	15*	36.	15	3	2.	17.	30 I	2	4.	43.	25 I
4	10.	4.	23	3	4.	44.	55 E	2	6.	26.	48 E
6	4.	32.	34	6	15*	34.	18 I	9	8.	40.	21 I
7	23.	0.	47	6	18*	1.	42 E	9	10.	23.	29 E
9	17*	29.	2	10	4.	51.	15 I	16	12.	37.	59 I
11	11.	57.	21	10	7.	18.	39 E	16	14*	20.	52 E
13	6.	25.	42	13	18*	8.	24 I	23	16*	36.	16 I
15	0.	54.	6	13	20.	35.	48 E	23	18.	18.	53 E
16	19.	22.	29	17	7.	25.	34 I	IV. Satellite. Conj.			
18	13*	50.	57	17	9.	52.	58 E				
20	8.	19.	26	20	20.	42.	55 I				
22	2.	48.	2	24	10.	0.	19 I				
23	21.	16.	35	27	23.	17.	53 I	8	18.	47	infr.
25	15*	45.	15					17	3.	44	supr.
27	10.	13.	54					25	12.	44	infr.

[16] F E B R U A R Y 1769.

Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric Lati- tude.	Declina- tion.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /

M E R C U R Y. greatest Elong. 24^d.

1	10. 22. 10	6. 57 S	10. 15. 40	2. 1 S	18. 5 S	0. 13
7	11. 16. 44	6. 0	10. 26. 28	1. 40	14. 16	0. 31
13	0. 16. 10	3. 28	11. 7. 23	0. 57	9. 41	0. 48
19	1. 20. 50	0. 37 N	11. 17. 33	0. 11 N	4. 46	1. 1
25	2. 28. 30	4. 45	11. 25. 20	1. 35	0. 24	1. 5

V E N U S.

1	1. 25. 55	1. 5 S	11. 23. 29	0. 43 S	3. 16 S	2. 35
7	2. 5. 34	0. 32	0. 0. 34	0. 21	0. 8	2. 37
13	2. 15. 14	0. 2 N	0. 7. 34	0. 3 N	3. 2 N	2. 38
19	2. 24. 55	0. 37	0. 14. 28	0. 28	6. 7	2. 40
25	3. 4. 38	1. 10	0. 21. 17	0. 55	9. 9	2. 41

M A R S.

□ 8. 18^h.

1	2. 25. 48	1. 8 N	1. 16. 59	1. 32 N	18. 24 N	5. 53
7	2. 28. 44	1. 12	1. 19. 58	1. 34	19. 16	5. 41
13	3. 1. 39	1. 16	1. 23. 3	1. 35	20. 6	5. 30
19	3. 4. 32	1. 20	1. 26. 12	1. 36	20. 53	5. 20
25	3. 7. 24	1. 24	1. 29. 26	1. 36	21. 38	5. 11

J U P I T E R.

□ 9^d. 21^h.

1	7. 10. 52	1. 7 N	7. 21. 15	1. 7 N	17. 1 S	18. 11
7	7. 11. 20	1. 7	7. 21. 48	1. 7	17. 9	17. 50
13	7. 11. 47	1. 6	7. 22. 17	1. 8	17. 16	17. 28
19	7. 12. 15	1. 6	7. 22. 40	1. 9	17. 21	17. 7
25	7. 12. 42	1. 5	7. 22. 56	1. 10	17. 24	16. 45

S A T U R N.

1	3. 15. 35	0. 15 S	3. 12. 24	0. 17 S	22. 36 N	9. 50
7	3. 15. 49	0. 15	3. 12. 2	0. 16	22. 39	9. 24
13	3. 16. 2	0. 14	3. 11. 44	0. 16	22. 41	8. 59
19	3. 16. 16	0. 14	3. 11. 28	0. 15	22. 43	8. 35
25	3. 16. 29	0. 13	3. 11. 16	0. 15	22. 45	8. 12

F E B R U A R Y 1769. [17]

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S ° ' "	S ° ' "	° ' "	° ' "
1	W.	8. 11. 52. 57	8. 17. 53. 49	1. 49. 52 S	1. 18. 41 S
2	Th.	8. 23. 57. 35	9. 0. 4. 48	0. 46. 21 S	0. 13. 16 S
3	F.	9. 6. 15. 58	9. 12. 31. 25	0. 20. 22 N	0. 54. 4 N
4	Sa.	9. 18. 51. 25	9. 25. 16. 19	1. 27. 27	2. 0. 12
5	Su.	10. 1. 45. 59	10. 8. 20. 40	2. 31. 39	3. 1. 29
6	M.	10. 15. 0. 4	10. 21. 44. 11	3. 29. 11	3. 54. 15
7	Tu.	10. 28. 32. 36	11. 5. 24. 57	4. 16. 17	4. 34. 45
8	W.	11. 12. 20. 44	11. 19. 19. 39	4. 49. 23	4. 59. 46
9	Th.	11. 26. 21. 0	0. 3. 24. 16	5. 5. 43	5. 7. 4
10	F.	0. 10. 29. 1	0. 17. 34. 35	5. 3. 44	4. 55. 46
11	Sa.	0. 24. 40. 32	1. 1. 46. 37	4. 43. 12	4. 26. 18
12	Su.	1. 8. 52. 24	1. 15. 57. 32	4. 5. 12	3. 40. 22
13	M.	1. 23. 1. 52	2. 0. 5. 7	3. 12. 20	2. 41. 29
14	Tu.	2. 7. 7. 16	2. 14. 8. 14	2. 8. 7	1. 32. 57
15	W.	2. 21. 7. 47	2. 28. 5. 57	0. 56. 35 N	0. 19. 21 N
16	Th.	3. 5. 2. 33	3. 11. 57. 32	0. 18. 0 S	0. 54. 47 S
17	F.	3. 18. 50. 36	3. 25. 41. 42	1. 30. 38	2. 4. 52
18	Sa.	4. 2. 30. 30	4. 9. 16. 56	2. 37. 8	3. 6. 56
19	Su.	4. 16. 0. 34	4. 22. 41. 17	3. 33. 51	3. 57. 35
20	M.	4. 29. 18. 42	5. 5. 52. 42	4. 17. 53	4. 34. 36
21	Tu.	5. 12. 23. 2	5. 18. 49. 28	4. 47. 26	4. 56. 33
22	W.	5. 25. 12. 4	6. 1. 30. 44	5. 1. 45	5. 3. 13
23	Th.	6. 7. 45. 27	6. 13. 56. 30	5. 1. 3	4. 55. 18
24	F.	6. 20. 3. 54	6. 26. 8. 7	4. 46. 10	4. 33. 51
25	Sa.	7. 2. 9. 27	7. 8. 8. 12	4. 18. 39	4. 0. 38
26	Su.	7. 14. 5. 0	7. 20. 0. 30	3. 40. 6	3. 17. 13
27	M.	7. 25. 55. 0	8. 1. 49. 23	2. 52. 15	2. 25. 30
28	Tu.	8. 7. 44. 13	8. 13. 40. 11	1. 57. 12	1. 27. 23

[18] FEBRUARY 1769.							
Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declinat. at Noon.	D's Declin. at Midn.
			h /	° /	° /	° /	° /
1	W.	26	20. 20	250. 6	256. 43	24. 4 S	24. 13 S
2	Th.	27	21. 11	263. 23	270. 5	24. 6	23. 41
3	F.	28	22. 2	276. 49	283. 31	22. 59	21. 59
4	Sa.	29	22. 53	290. 12	296. 51	20. 42	19. 8
5	Su.	30	23. 43	303. 26	309. 57	17. 20	15. 17
6	M.	1	♂	316. 25	322. 50	13. 1	10. 35
7	Tu.	2	0. 32	329. 12	335. 33	7. 59	5. 17 S
8	W.	3	1. 20	341. 53	348. 14	2. 29 S	0. 22 N
9	Th.	4	2. 9	354. 37	1. 4	3. 13 N	6. 3
10	F.	5	2. 59	7. 37	14. 17	8. 48	11. 27
11	Sa.	6	3. 50	21. 4	28. 0	13. 57	16. 16
12	Su.	7	4. 45	35. 6	42. 21	18. 21	20. 9
13	M.	8	5. 43	49. 45	57. 17	21. 39	22. 49
14	Tu.	9	6. 41	64. 54	72. 35	23. 37	24. 4
15	W.	10	7. 41	80. 16	87. 55	24. 7	23. 47
16	Th.	11	8. 40	95. 29	102. 55	23. 5	22. 1
17	F.	12	9. 36	110. 11	117. 16	20. 39	18. 59
18	Sa.	13	10. 29	124. 10	130. 52	17. 4	14. 57
19	Su.	14	11. 19	137. 23	143. 44	12. 39	10. 13
20	M.	15	12. 5	149. 55	155. 59	7. 42	5. 7 N
21	Tu.	16	12. 50	161. 56	167. 48	2. 30 N	0. 7 S
22	W.	17	13. 34	173. 36	179. 21	2. 42 S	5. 14
23	Th.	18	14. 17	185. 7	190. 53	7. 41	10. 2
24	F.	19	15. 1	196. 41	202. 31	12. 16	14. 21
25	Sa.	20	15. 47	208. 26	214. 24	16. 17	18. 2
26	Su.	21	16. 34	220. 28	226. 37	19. 35	20. 56
27	M.	22	17. 22	232. 51	239. 11	22. 3	22. 56
28	Tu.	23	18. 12	245. 35	252. 5	23. 33	23. 55

F E B R U A R Y 1769. [19]

Days of the Month.	Days of the Week.	Semidr. D at Noon.	Semidr. D at Mid-night.	Hor. Par. D at Noon.	Hor. Par. D at Midnight.	Equat. at Noon.	Proport. Lo. Equat. at Midn.	Proport. Lo.
		1 11	1 11	1 11	1 11	Proport. Lo.	Equat. at Midn.	Proport. Lo.
1	W.	14. 55	14. 58	54. 46	54. 57	5167	5153	
2	Th.	15. 2	15. 6	55. 10	55. 25	5136	5116	
3	F.	15. 11	15. 15	55. 42	55. 59	5094	5072	
4	Sa.	15. 20	15. 26	56. 18	56. 37	5048	5023	
5	Su.	15. 31	15. 36	56. 56	57. 15	4999	4975	
6	M.	15. 41	15. 46	57. 34	57. 52	4951	4928	
7	Tu.	15. 51	15. 55	58. 9	58. 24	4907	4889	
8	W.	15. 59	16. 2	58. 38	58. 51	4871	4855	
9	Th.	16. 5	16. 7	59. 1	59. 10	4843	4832	
10	F.	16. 9	16. 11	59. 17	59. 22	4823	4817	
11	Sa.	16. 12	16. 12	59. 26	59. 28	4812	4810	
12	Su.	16. 12	16. 12	59. 29	59. 28	4809	4810	
13	M.	16. 12	16. 11	59. 26	59. 23	4812	4816	
14	Tu.	16. 10	16. 9	59. 19	59. 14	4821	4827	
15	W.	16. 7	16. 5	59. 8	59. 1	4834	4843	
16	Th.	16. 3	15. 0	58. 52	58. 43	4854	4865	
17	F.	15. 57	15. 54	58. 32	58. 20	4878	4894	
18	Sa.	15. 50	15. 46	58. 7	57. 53	4910	4927	
19	Su.	15. 42	15. 38	57. 38	57. 22	4946	4966	
20	M.	15. 33	15. 29	57. 5	56. 48	4987	5009	
21	Tu.	15. 24	15. 19	56. 30	56. 13	5032	5054	
22	W.	15. 15	15. 10	55. 56	55. 40	5076	5097	
23	Th.	15. 6	15. 2	55. 25	55. 11	5116	5135	
24	F.	14. 59	14. 56	54. 58	54. 47	5152	5166	
25	Sa.	14. 53	14. 51	54. 37	54. 31	5179	5187	
26	Su.	14. 50	14. 49	54. 26	54. 23	5194	5198	
27	M.	14. 49	14. 50	54. 23	54. 26	5198	5194	
28	Tu.	14. 51	14. 53	54. 30	54. 38	5188	5178	

[20] FEBRUARY 1769.

Distances of γ 's Center from $\odot$, and from Stars east of her.													
Days	Stars Names.	Noon.			3 Hours.			6 Hours.			9 Hours.		
		o	i	''	o	i	''	o	i	''	o	i	''
1	The Sun.	61.	9.	54	59.	47.	27	58.	24.	50	57.	2.	3
2		50.	5.	22	48.	41.	26	47.	17.	18	45.	52.	57
3		38.	47.	37									
8	α Arietis.	51.	51.	53	50.	8.	35	48.	25.	9	46.	41.	37
9		38.	2.	55									
9	Aldeba- ran.	70.	54.	39	69.	10.	29	67.	26.	14	65.	41.	54
10		56.	59.	23	55.	14.	49	53.	30.	16	51.	45.	44
11		43.	3.	51	41.	19.	43	39.	35.	42	37.	51.	49
12		29.	16.	17	27.	34.	21	25.	52.	56	24.	12.	6
13	Pollux.	56.	52.	42	55.	8.	16	53.	23.	58	51.	39.	47
14		43.	1.	4	41.	17.	53	39.	34.	57	37.	52.	15
15	Regulus.	65.	29.	57	63.	45.	18	62.	0.	45	60.	16.	18
16		51.	35.	41	49.	51.	56	48.	8.	20	46.	24.	52
17		37.	50.	12	36.	7.	49	34.	25.	40	32.	43.	47
18		24.	18.	43	22.	38.	48	20.	59.	22	19.	20.	32
19		11.	21.	10									
19	Spica μ	64.	33.	3	62.	52.	43	61.	12.	37	59.	32.	45
20		51.	16.	53	49.	38.	26	48.	0.	13	46.	22.	15
21		38.	16.	19	36.	39.	57	35.	3.	51	33.	28.	2
22		25.	33.	7	23.	59.	3	22.	25.	20	20.	51.	59
23		13.	11.	18									
23	Antares.	58.	33.	57	57.	1.	17	55.	28.	53	53.	56.	43
24		46.	19.	10	44.	48.	16	43.	17.	33	41.	47.	1
25		34.	17.	1	32.	47.	32	31.	18.	11	29.	49.	0
26	α Aquilæ.	78.	20.	6	77.	1.	10	75.	42.	25	74.	23.	50
27		67.	53.	54	66.	36.	33	65.	19.	25	64.	2.	30
28	Fomalhaut.	82.	38.	55	81.	18.	39	79.	58.	23	78.	38.	6
25	The Sun.										120.	53.	22
26		114.	6.	46	112.	45.	39	111.	24.	36	110.	3.	35
27		103.	19.	4	101.	58.	11	100.	37.	16	99.	16.	19
28		92.	30.	54	91.	9.	37	89.	48.	14	88.	26.	45

F E B R U A R Y 1769. [21]

Distances of γ 's Center from $\odot$, and from Stars east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		o' ' "	o' ' "	o' ' "	o' ' "
1	The Sun.	55. 39. 5	54. 15. 57	52. 52. 37	51. 29. 5
2		44. 28. 21	43. 3. 32	41. 38. 29	40. 13. 10
7	α Arietis.	58. 43. 34	57. 0. 54	55. 18. 5	53. 35. 3
8		44. 57. 59	43. 14. 17	41. 30. 32	39. 46. 44
9	Aldeba- ran.	63. 57. 29	62. 13. 1	60. 28. 30	58. 43. 57
10		50. 1. 14	48. 16. 47	46. 32. 24	44. 48. 5
11		36. 8. 7	34. 24. 40	32. 41. 30	30. 58. 41
12		22. 31. 53			
12	Pollux.	63. 51. 20	62. 6. 33	60. 21. 51	58. 37. 14
13		49. 55. 44	48. 11. 49	46. 28. 3	44. 44. 28
14		36. 9. 48			
14	Regulus.	72. 29. 21	70. 44. 23	68. 59. 30	67. 14. 41
15		58. 31. 56	56. 47. 41	55. 3. 34	53. 19. 34
16		44. 41. 34	42. 58. 27	41. 15. 31	39. 32. 46
17		31. 2. 8	29. 20. 44	27. 39. 42	25. 59. 2
18		17. 42. 24	16. 5. 6	14. 28. 52	12. 54. 4
19	Spica μ	57. 53. 6	56. 13. 41	54. 34. 31	52. 55. 35
20		44. 44. 33	43. 7. 6	41. 29. 54	39. 52. 59
21		31. 52. 29	30. 17. 11	28. 42. 12	27. 7. 30
22		19. 19. 0	17. 46. 26	16. 14. 17	14. 42. 34
23	Antares.	52. 24. 46	50. 53. 3	49. 21. 33	47. 50. 15
24		40. 16. 40	38. 46. 30	37. 16. 30	35. 46. 40
25		28. 19. 58			
25	α Aquilæ.	83. 37. 15	82. 17. 47	80. 58. 25	79. 39. 11
26		73. 5. 27	71. 47. 16	70. 29. 16	69. 11. 29
27		62. 45. 49			
27	Fomal- haut.	87. 59. 43	86. 39. 33	85. 19. 22	83. 59. 9
28		77. 17. 49			
25	The Sun.	119. 31. 52	118. 10. 28	116. 49. 10	115. 27. 57
26		108. 42. 36	107. 21. 40	106. 0. 47	104. 39. 56
27		97. 55. 21	96. 34. 20	95. 13. 15	93. 52. 6
28		87. 5. 9	85. 43. 25	84. 21. 32	82. 59. 31

[22] FEBRUARY 1769.

		Distances of ☽'s Center from Stars, and from ☉ west of her.											
Days.	Stars Names.	Noon.			3 Hours.			6 Hours.			9 Hours.		
		°	'	"	°	'	"	°	'	"	°	'	"
1	Spica ♏	51. 13. 24	52. 43. 28	54. 13. 43	55. 44. 9								
2		63. 19. 17	64. 50. 58	66. 22. 52	67. 55. 1								
3	Antares.	30. 5. 28	31. 39. 1	33. 12. 51	34. 46. 59								
4		42. 42. 4	44. 18. 0	45. 54. 14	47. 30. 46								
5		55. 37. 43											
9	The Sun.			38. 46. 26	40. 23. 47								
10		48. 32. 17	50. 10. 15	51. 48. 17	53. 26. 23								
11		61. 37. 36	63. 15. 57	64. 54. 20	66. 32. 45								
12		74. 44. 57	76. 23. 21	78. 1. 45	79. 40. 7								
13		87. 51. 39	89. 29. 50	91. 7. 59	92. 46. 4								
14		100. 55. 51	102. 33. 39	104. 11. 23	105. 49. 3								
15		113. 56. 8	115. 33. 17	117. 10. 21	118. 47. 20								
13	♈ Aries.	19. 39. 16	21. 21. 1	23. 3. 20	24. 46. 5								
14		33. 23. 55	35. 7. 57	36. 52. 4	38. 36. 13								
15		47. 17. 7											
15	Aldebaran.	15. 53. 52	17. 27. 7	19. 2. 6	20. 38. 31								
16		28. 53. 42	30. 34. 13	32. 15. 0	33. 55. 57								
17		42. 22. 8	44. 3. 29	45. 44. 47	47. 26. 4								
18		55. 51. 14	57. 31. 58	59. 12. 34	60. 53. 2								
19	Pollux.	69. 12. 56											
19		27. 52. 5	29. 28. 1	31. 4. 6	32. 40. 19								
20		40. 42. 14	42. 18. 32	43. 54. 45	45. 30. 51								
21	Regulus.	53. 29. 9											
21		16. 35. 12	18. 8. 17	19. 41. 40	21. 15. 13								
22		29. 3. 26	30. 36. 51	32. 10. 8	33. 43. 15								
23		41. 26. 18	42. 58. 23	44. 30. 16	46. 1. 59								
24		53. 37. 45	55. 8. 21	56. 38. 47	58. 9. 4								
25	Spica ♏	65. 38. 14											
25		11. 43. 50	13. 11. 30	14. 39. 21	16. 7. 21								
26		23. 28. 45	24. 57. 7	26. 25. 29	27. 53. 52								
27		35. 15. 42	36. 44. 7	38. 12. 35	39. 41. 6								
28		47. 4. 31	48. 33. 26	50. 2. 28	51. 31. 37								

F E B R U A R Y 1769. [23]

Distances of ☽'s Center from Stars, and from ☉ west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1 2	Spica ♏	57. 14. 46 69. 27. 25	58. 45. 35	60. 16. 36	61. 47. 50
2 3 4	Antares.	23. 54. 10 36. 21. 25 49. 7. 36	25. 26. 33 37. 56. 8 50. 44. 43	26. 59. 14 39. 31. 8 52. 22. 6	28. 32. 12 41. 6. 27 53. 59. 46
9 10 11 12 13 14 15	The Sun.	42. 1. 16 55. 4. 33 68. 11. 11 81. 18. 29 94. 24. 8 107. 26. 38 120. 24. 14	43. 38. 52 56. 42. 45 69. 49. 37 82. 56. 49 96. 2. 8 109. 4. 8	45. 16. 34 58. 21. 0 71. 28. 4 84. 35. 8 97. 40. 6 110. 41. 33	46. 54. 23 59. 59. 16 73. 6. 30 86. 13. 24 99. 18. 0 112. 18. 53
13 14	♈ Arietis.	26. 29. 12 40. 20. 25	28. 12. 36 42. 4. 38	29. 56. 12 43. 48. 50	31. 39. 59 45. 33. 0
15 16 17 18	Aldeba- ran.	22. 16. 5 35. 37. 2 49. 7. 18 62. 33. 22	23. 54. 34 37. 18. 14 50. 48. 26 64. 13. 32	25. 33. 46 38. 59. 31 52. 29. 28 65. 53. 31	27. 13. 31 40. 40. 49 54. 10. 24 67. 33. 20
19 20	Pollux.	34. 16. 38 47. 6. 50	35. 53. 2 48. 42. 41	37. 29. 27 50. 18. 22	39. 5. 52 51. 53. 52
21 22 23 24	Regulus.	22. 48. 53 35. 16. 13 47. 33. 31 59. 39. 11	24. 22. 35 36. 49. 0 49. 4. 51 61. 9. 9	25. 56. 16 38. 21. 36 50. 36. 0 62. 38. 59	27. 29. 54 39. 54. 2 52. 6. 58 64. 8. 40
25 26 27 28	Spica ♏	17. 35. 29 29. 22. 15 41. 9. 39 53. 0. 53	19. 3. 43 30. 50. 35 42. 38. 15 54. 30. 18	20. 32. 1 32. 18. 57 44. 6. 56 55. 59. 51	22. 0. 22 33. 47. 20 45. 35. 41 57. 29. 33

[24]

1769.

Configurations of the SATELLITES of JUPITER

at 5 o' th' Clock in the Morning.

1		.2		⊙	4.	1.	3.
2			.1	⊙	.2	3.	
3	1 ●	4.	3.	⊙	2.		
4		4.	3.	⊙	.1		
5	4.	3.	.2	⊙	1.		
6	.4		.3	⊙	.1	.2	
7	2 ●	.4	1.	⊙	.3		
8		.4	.2	⊙	1.	.3	
9			.4.1	⊙	.2	3.	
10	3 ●			⊙	1.	.4	2.
11	1.0	3.	2.	⊙			.4
12		.3	.2	⊙	1.		.4
13			.3	⊙	.1	.2	.4
14			1.	⊙	2.	.3	4
15		2.		⊙	1.	.3	4.
16	2.0		.1	⊙		3.	4.
17	3 ●			⊙	1.	4	2
18	4.0	3.	2.	⊙	.1		
19	1 ●	.3	.2	⊙			
20		4.	.3	⊙	.1	.2	
21	4.		1.	⊙	.3	2.	
22	4.	2.		⊙	.1	.3	
23	.4		.1	⊙		3.	2.0
24	3 ●	.4		⊙	1.	2.	
25		.4	3.	⊙	.1	2.	
26	1 ●	3.	.2	⊙	.4		
27		.3		⊙	.1	2	4
28				⊙	.3	2.	.4

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D. H. '
			New Moon — 7. 18. 36
			First Quarter — 14. 11. 36
			Full Moon — 21. 20. 51
			Last Quarter — 30. 0. 57
			Other Phenomena.
			D.
1	W.	David.	2. ☾ 19 ^h . 38'.
2	Th.	Chad.	☾ 22 ^h . 5'.
3	F.		3. ☿ Stationary.
4	Sa.	{Su. Prs. of Hesse bor.	9. ♃ Stationary.
5	Su.	4th Su. in Lent, Midlent.	10. ☾ 5 ^h . 23'.
6	M.		12. ♄ Stationary.
7	Tu.	Perpetua.	13. ☾ 7 ^h . 55'. nearest
8	W.		vis. dist. of centers 24'.
9	Th.		14. ☾ infra cornu bor. 8
10	F.		10 ^h . 51'.
11	Sa.		☾ 21 ^h . 8'.
12	Su.	5th Su. in Lent. Greg.M.	15. ☾ 21 ^h . 21'.
13	M.		☾ 16 ^h . 6'. diff. Lat.
14	Tu.		50'.
15	W.		☾ 17 ^h . 19'.
16	Th.		18. ☾ 11 ^h . 6'.
17	F.	Cambridge Term ends.	☾ 17 ^h . 25'.
18	Sa.	Ed.K.of W.S.Ox.T.ends.	19. ☾ 1 ^h . 10'.
19	Su.	6th Su. in Lent, Palm-Su.	☾ enters ♄ at 19 ^h . 29'.
20	M.		21. ☾ 0 ^h . 4'.
21	Tu.	Benedict.	26. ♄ Stationary.
22	W.		☾ 14 ^h . 44'.
23	Th.		28. ☾ Ophiuchi 5 ^h . 0'.
24	F.	Good-Friday.	☾ B Ophiuchi 6 ^h . 53'.
25	Sa.	Annunciat. of V. Mary.	30. ☾ 4 ^h . 14'.
26	Su.	Easter-Day.	☾ 6 ^h . 43'.
27	M.	Easter-Monday.	♀ n Pleiadum diff. Lat.
28	Tu.	Easter-Tuesday.	27'.
29	W.		
30	Th.		
31	F.		

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Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time Add.	Diff.
		s o ' "	h / "	o / "	/ "	"
1	W.	11. 11. 15. 19	22. 50. 50	7. 21. 11	12. 35,6	12,6
2	Th.	11. 12. 15. 24	22. 54. 34	6. 58. 17	12. 23,0	13,0
3	F.	11. 13. 15. 27	22. 58. 18	6. 35. 17	12. 10,0	13,5
4	Sa.	11. 14. 15. 28	23. 2. 1	6. 12. 11	11. 56,5	14,0
5	Su.	11. 15. 15. 28	23. 5. 43	5. 49. 0	11. 42,5	14,4
6	M.	11. 16. 15. 26	23. 9. 25	5. 25. 45	11. 28,1	14,8
7	Tu.	11. 17. 15. 22	23. 13. 7	5. 2. 25	11. 13,3	15,1
8	W.	11. 18. 15. 16	23. 16. 49	4. 39. 1	10. 58,2	15,5
9	Th.	11. 19. 15. 8	23. 20. 30	4. 15. 34	10. 42,7	15,8
10	F.	11. 20. 14. 58	23. 24. 11	3. 52. 3	10. 26,9	16,2
11	Sa.	11. 21. 14. 46	23. 27. 51	3. 28. 30	10. 10,7	16,6
12	Su.	11. 22. 14. 32	23. 31. 31	3. 4. 54	9. 54,1	16,8
13	M.	11. 23. 14. 15	23. 35. 11	2. 41. 17	9. 37,3	17,1
14	Tu.	11. 24. 13. 56	23. 38. 50	2. 17. 38	9. 20,2	17,4
15	W.	11. 25. 13. 35	23. 42. 29	1. 53. 58	9. 2,8	17,6
16	Th.	11. 26. 13. 11	23. 46. 8	1. 30. 17	8. 45,2	17,9
17	F.	11. 27. 12. 45	23. 49. 47	1. 6. 35	8. 27,3	18,1
18	Sa.	11. 28. 12. 16	23. 53. 25	0. 42. 54	8. 9,2	18,2
19	Su.	11. 29. 11. 45	23. 57. 3	0. 19. 13	7. 51,0	18,3
20	M.	0. 0. 11. 12	0. 0. 41	NORTH. 0. 4. 27	7. 32,7	18,5
21	Tu.	0. 1. 10. 37	0. 4. 19	0. 28. 7	7. 14,2	18,6
22	W.	0. 2. 10. 0	0. 7. 57	0. 51. 46	6. 55,6	18,7
23	Th.	0. 3. 9. 21	0. 11. 35	1. 15. 23	6. 35,9	18,8
24	F.	0. 4. 8. 39	0. 15. 13	1. 38. 58	6. 18,1	18,8
25	Sa.	0. 5. 7. 55	0. 18. 50	2. 2. 30	5. 59,3	18,8
26	Su.	0. 6. 7. 10	0. 22. 28	2. 26. 0	5. 40,5	18,8
27	M.	0. 7. 6. 23	0. 26. 6	2. 49. 27	5. 21,7	18,7
28	Tu.	0. 8. 5. 34	0. 29. 43	3. 12. 51	5. 3,0	18,7
29	W.	0. 9. 4. 44	0. 33. 21	3. 36. 11	4. 44,3	18,6
30	Th.	0. 10. 3. 52	0. 36. 59	3. 59. 27	4. 25,7	18,5
31	F.	0. 11. 2. 58	0. 40. 37	4. 22. 40	4. 7,2	18,4

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Days of the Month.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	' "	' "	' "		' ° '
1	16. 10. 6	1. 5. 3	2. 30. 1	9. 996495	8. 29. 38
7	16. 9. 1	1. 4. 9	2. 29. 7	9. 997199	8. 29. 19
13	16. 7. 4	1. 4. 6	2. 29. 2	9. 997901	8. 29. 0
19	16. 5. 8	1. 4. 4	2. 28. 8	9. 998620	8. 28. 41
25	16. 4. 1	1. 4. 3	2. 28. 2	9. 999369	8. 28. 22

Eclipses of the SATELLITES of JUPITER.

I. Satellite. Immersions.			II. Satellite. Immersions.			III. Satellite.		
Days	h	' "	Days	h	' "	Days	h	' "
1	4. 42. 36		3	12. 35. 22		2	20. 35. 5	I
2	23. 11. 18		7	1. 52. 57		2	22. 17. 26	E
4	17. 40. 4		10	15* 10. 39		10	0. 34. 20	I
6	12. 8. 51		14	4. 28. 22		10	2. 16. 31	E
8	6. 37. 40		17	17. 46. 4		17	4. 33. 54	I
10	1. 6. 30		21	7. 3. 50		17	6. 15. 59	E
11	19. 35. 18		24	20. 21. 35		24	8. 33. 36	I
13	14* 4. 11		28	9. 39. 19		24	10. 15. 36	E
15	8. 33. 2		31	22. 57. 4		31	12* 33. 25	I
17	3. 2. 1					31	14* 15. 18	E
18	21. 30. 53							
20	15* 59. 51					IV. Satellite. Conj.		
22	10. 28. 45					5	21. 44.	supr.
24	4. 57. 44					14	6. 43	infr.
25	23. 26. 32					22	15. 41	supr.
27	17. 55. 32					31	0. 42	infr.
29	12* 24. 26							
31	6. 53. 27							

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Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric La- titude.	Declina- tion.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /
MERCURY. inf. ♂ 13 ^d 3 ^h .						
1	3. 22. 57	6. 27 N	11. 28. 10	2. 31 N	1. 35 N	0. 59
7	4. 25. 40	6. 53	11. 27. 59	3. 30	2. 24	0. 34
13	5. 22. 49	5. 35	11. 23. 30	3. 30	0. 38	23. 50
19	6. 15. 24	3. 34	11. 18. 16	2. 25	2. 26 S	23. 11
25	7. 4. 52	1. 20	11. 15. 33	0. 54	4. 53	22. 43

VENUS, greatest Elong. 23^d.

1	3. 11. 7	1. 31 N	0. 25. 45	1. 14 N	11. 6 N	2. 43
7	3. 20. 51	2. 0	1. 2. 21	1. 43	13. 54	2. 45
13	4. 0. 34	2. 26	1. 8. 47	2. 13	16. 32	2. 47
19	4. 10. 21	2. 48	1. 15. 2	2. 41	18. 56	2. 49
25	4. 20. 6	3. 5	1. 21. 4	3. 8	21. 4	2. 52

MARS.

1	3. 9. 18	1. 26 N	2. 1. 38	1. 37 N	22. 6 N	5. 5
7	3. 12. 7	1. 30	2. 4. 57	1. 37	22. 44	4. 57
13	3. 14. 55	1. 33	2. 8. 19	1. 37	23. 19	4. 49
19	3. 17. 42	1. 36	2. 11. 43	1. 36	23. 49	4. 42
25	3. 20. 28	1. 38	2. 15. 9	1. 35	24. 13	4. 35

JUPITER.

1	7. 13. 1	1. 5 N	7. 23. 3	1. 11 N	17. 25 S	16. 30
7	7. 13. 29	1. 5	7. 23. 8	1. 11	17. 26	16. 9
13	7. 13. 56	1. 5	7. 23. 6	1. 12	17. 25	15. 47
19	7. 14. 24	1. 4	7. 22. 57	1. 13	17. 22	15. 24
25	7. 14. 51	1. 4	7. 22. 42	1. 14	17. 17	15. 1

SATURN.

□ 31^d 9^h.

1	3. 16. 38	0. 13 S	3. 11. 10	0. 14 S	22. 46 N	7. 57
7	3. 16. 52	0. 12	3. 11. 5	0. 14	22. 47	7. 34
13	3. 17. 5	0. 11	3. 11. 3	0. 13	22. 48	7. 12
19	3. 17. 19	0. 11	3. 11. 5	0. 12	22. 48	6. 50
25	3. 17. 32	0. 10	3. 11. 13	0. 11	22. 49	6. 29

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Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midnight.
		S ° ' "	S ° ' "	° ' "	° ' "
1	W.	8. 19. 38. 4	8. 25. 38. 21	0. 56. 31 S	0. 24. 52 S
2	Th.	9. 1. 41. 52	9. 7. 49. 21	0. 7. 23 N	0. 39. 49 N
3	F.	9. 14. 1. 15	9. 20. 18. 4	1. 12. 6	1. 44. 1
4	Sa.	9. 26. 40. 29	10. 3. 8. 40	2. 14. 59	2. 44. 47
5	Su.	10. 9. 43. 1	10. 16. 23. 41	3. 12. 45	3. 38. 31
6	M.	10. 23. 10. 32	11. 0. 3. 29	4. 1. 34	4. 21. 26
7	Tu.	11. 7. 2. 13	11. 14. 6. 12	4. 37. 42	4. 49. 49
8	W.	11. 21. 14. 51	11. 28. 27. 19	4. 57. 40	5. 0. 50
9	Th.	0. 5. 42. 44	0. 13. 0. 16	4. 59. 11	4. 52. 38
10	F.	0. 20. 18. 54	0. 27. 37. 42	4. 41. 16	4. 25. 17
11	Sa.	1. 4. 55. 48	1. 12. 12. 35	4. 4. 55	3. 40. 38
12	Su.	1. 19. 27. 17	1. 26. 39. 25	3. 12. 52	2. 42. 12
13	M.	2. 3. 48. 36	2. 10. 54. 35	2. 9. 7	1. 34. 13
14	Tu.	2. 17. 57. 16	2. 24. 56. 29	0. 58. 11 N	0. 21. 31 N
15	W.	3. 1. 52. 21	3. 8. 44. 52	0. 15. 12 S	0. 51. 17 S
16	Th.	3. 15. 34. 5	3. 22. 20. 21	1. 26. 25	2. 0. 2
17	F.	3. 29. 3. 32	4. 5. 43. 45	2. 31. 42	3. 1. 0
18	Sa.	4. 12. 21. 11	4. 18. 55. 50	3. 27. 37	3. 51. 15
19	Su.	4. 25. 27. 45	5. 1. 56. 53	4. 11. 38	4. 28. 34
20	M.	5. 8. 23. 17	5. 14. 46. 51	4. 41. 54	4. 51. 36
21	Tu.	5. 21. 7. 39	5. 27. 25. 32	4. 57. 37	4. 59. 53
22	W.	6. 3. 40. 30	6. 9. 52. 38	4. 58. 31	4. 53. 35
23	Th.	6. 16. 1. 54	6. 22. 8. 28	4. 45. 18	4. 33. 42
24	F.	6. 28. 12. 17	7. 4. 13. 46	4. 19. 8	4. 1. 41
25	Sa.	7. 10. 12. 54	7. 16. 10. 12	3. 41. 40	3. 19. 15
26	Su.	7. 22. 5. 50	7. 28. 0. 28	2. 54. 45	2. 28. 25
27	M.	8. 3. 54. 21	8. 9. 48. 15	2. 0. 26	1. 31. 15
28	Tu.	8. 15. 42. 31	8. 21. 37. 50	1. 1. 0 S	0. 29. 54 S
29	W.	8. 27. 34. 56	9. 3. 34. 26	0. 1. 43 N	0. 33. 26 N
30	Th.	9. 9. 37. 0	9. 15. 43. 24	1. 5. 6	1. 36. 19
31	F.	9. 21. 54. 13	9. 28. 10. 4	2. 6. 40	2. 36. 14

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Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declination at Noon.	D's Declination at Midn.
			h /	° /	° /	° /	° /
1	W.	24	19. 3	258. 39	265. 14	24. 0 S	23. 49 S
2	Th.	25	19. 54	271. 51	278. 29	23. 20	22. 35
3	F.	26	20. 45	285. 6	291. 41	21. 32	20. 13
4	Sa.	27	21. 34	298. 15	304. 47	18. 38	16. 48
5	Su.	28	22. 23	311. 17	317. 44	14. 44	12. 28
6	M.	29	23. 13	324. 11	330. 36	10. 0	7. 23
7	Tu.	1	♂	337. 2	343. 30	4. 38 S	1. 48 S
8	W.	2	0. 3	350. 0	356. 35	1. 5 N	3. 59 N
9	Th.	3	0. 55	3. 15	10. 2	6. 51	9. 38
10	F.	4	1. 48	16. 57	24. 0	12. 17	14. 46
11	Sa.	5	2. 43	31. 13	38. 34	17. 1	19. 1
12	Su.	6	3. 41	46. 4	53. 40	20. 42	22. 4
13	M.	7	4. 41	61. 22	69. 5	23. 3	23. 40
14	Tu.	8	5. 42	76. 48	84. 28	23. 53	23. 44
15	W.	9	6. 41	92. 2	99. 28	23. 12	22. 20
16	Th.	10	7. 37	106. 43	113. 47	21. 8	19. 39
17	F.	11	8. 30	120. 39	127. 20	17. 54	15. 56
18	Sa.	12	9. 20	133. 50	140. 8	13. 48	11. 30
19	Su.	13	10. 7	146. 19	152. 20	9. 6	6. 37
20	M.	14	10. 52	158. 16	164. 7	4. 5 N	1. 31 N
21	Tu.	15	11. 36	169. 54	175. 39	1. 2 S	3. 34 S
22	W.	16	12. 19	181. 23	187. 8	6. 2	8. 25
23	Th.	17	13. 3	192. 54	198. 43	10. 42	12. 52
24	F.	18	13. 48	204. 36	210. 33	14. 53	16. 44
25	Sa.	19	14. 35	216. 34	222. 41	18. 24	19. 52
26	Su.	20	15. 23	228. 52	235. 9	21. 8	22. 9
27	M.	21	16. 12	241. 30	247. 54	22. 56	23. 27
28	Tu.	22	17. 2	254. 21	260. 51	23. 43	23. 42
29	W.	23	17. 52	267. 22	273. 53	23. 26	22. 52
30	Th.	24	18. 42	280. 23	286. 52	22. 2	20. 57
31	F.	25	19. 32	293. 18	299. 43	19. 36	18. 0

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Days of the Month.	Days of the Week.	Semidr. Δ at Noon.	Semidr. Δ at Mid-night.	Hor. Par. Δ at Noon.	Hor. Par. Δ at Midnight.	Propor. Lo- gar. at Noon.	Propor. Lo- gar. at Midn.
		1 11	1 11	1 11	1 11		
1	W.	14. 56	14. 59	54. 48	55. 1	5165	5148
2	Th.	15. 3	15. 8	55. 16	55. 33	5128	5106
3	F.	15. 13	15. 19	55. 52	56. 13	5081	5054
4	Sa.	15. 25	15. 32	56. 36	57. 0	5025	4994
5	Su.	15. 38	15. 45	57. 23	57. 47	4965	4935
6	M.	15. 51	15. 57	58. 11	58. 33	4905	4877
7	Tu.	16. 3	16. 8	58. 55	59. 14	4851	4827
8	W.	16. 13	16. 17	59. 31	59. 46	4806	4788
9	Th.	16. 20	16. 22	59. 57	60. 5	4775	4765
10	F.	16. 24	16. 24	60. 10	60. 12	4759	4757
11	Sa.	16. 24	16. 23	60. 11	60. 8	4758	4761
12	Su.	16. 21	16. 19	60. 1	59. 53	4770	4780
13	M.	16. 16	16. 13	59. 43	59. 31	4792	4806
14	Tu.	16. 10	16. 6	59. 18	59. 5	4822	4838
15	W.	16. 2	15. 58	58. 50	58. 35	4856	4875
16	Th.	15. 54	15. 50	58. 20	58. 4	4893	4913
17	F.	15. 45	15. 41	57. 49	57. 33	4932	4952
18	Sa.	15. 37	15. 33	57. 18	57. 4	4971	4989
19	Su.	15. 29	15. 24	56. 48	56. 32	5009	5030
20	M.	15. 20	15. 16	56. 17	56. 3	5049	5067
21	Tu.	15. 13	15. 9	55. 49	55. 35	5085	5103
22	W.	15. 5	15. 2	55. 22	55. 10	5120	5136
23	Th.	14. 58	14. 56	54. 58	54. 48	5151	5165
24	F.	14. 53	14. 51	54. 38	54. 30	5178	5189
25	Sa.	14. 49	14. 48	54. 24	54. 19	5197	5203
26	Su.	14. 47	14. 47	54. 16	54. 14	5207	5210
27	M.	14. 47	14. 48	54. 16	54. 19	5208	5203
28	Tu.	14. 49	14. 52	54. 24	54. 32	5197	5186
29	W.	14. 54	14. 58	54. 42	54. 55	5172	5156
30	Th.	15. 2	15. 7	55. 11	55. 29	5134	5111
31	F.	15. 13	15. 19	55. 49	56. 11	5085	5057

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		Distances of γ 's Center from $\odot$, and from Stars east of her.											
Days.	Stars Names.	Noon.			3 Hours.			6 Hours.			9 Hours.		
		$^{\circ}$	'	"	$^{\circ}$	'	"	$^{\circ}$	'	"	$^{\circ}$	'	"
1	The Sun.	81. 37. 19	80. 15. 0	78. 52. 31	77. 29. 51								
2		70. 33. 33	69. 9. 35	67. 45. 22	66. 20. 53								
3		59. 14. 40	57. 48. 36	56. 22. 13	54. 55. 33								
4		47. 37. 24	46. 8. 50	44. 39. 57	43. 10. 46								
9	Aldebaran.	61. 39. 53	59. 52. 16	58. 4. 34	56. 16. 48								
10		47. 17. 51	45. 30. 9	43. 42. 36	41. 55. 10								
11		33. 0. 55	31. 14. 59	29. 29. 28	27. 44. 25								
12	Pollux.	60. 25. 42	58. 38. 54	56. 52. 19	55. 5. 57								
13		46. 17. 46	44. 33. 0	42. 48. 34	41. 4. 29								
14	Regulus.	68. 40. 26	66. 55. 21	65. 10. 28	63. 25. 49								
15		54. 45. 52	53. 2. 34	51. 19. 30	49. 36. 41								
16		41. 6. 18	39. 24. 57	37. 43. 52	36. 3. 4								
17		27. 43. 39	26. 4. 48	24. 26. 22	22. 48. 23								
18	Spica μ	14. 48. 2											
18		68. 12. 13	66. 33. 25	64. 54. 49	63. 16. 24								
19		55. 7. 16	53. 30. 2	51. 53. 0	50. 16. 10								
20		42. 14. 55	40. 39. 16	39. 3. 49	37. 28. 35								
21		29. 35. 28	28. 1. 29	26. 27. 44	24. 54. 14								
22		17. 10. 40	15. 38. 57	14. 7. 40	12. 36. 50								
23	Antares.	50. 20. 23	48. 48. 56	47. 17. 41	45. 46. 36								
24		38. 13. 36	36. 43. 26	35. 13. 26	33. 43. 35								
25		26. 16. 44											
25	α Aquilæ.	81. 40. 18	80. 20. 34	79. 1. 1	77. 41. 39								
26		71. 7. 44	69. 49. 33	68. 31. 37	67. 13. 54								
27		60. 49. 30	59. 33. 33	58. 17. 57	57. 2. 43								
28	Fomalhaut.	75. 33. 44	74. 14. 7	72. 54. 35	71. 35. 6								
29		64. 58. 51	63. 39. 53	62. 21. 4	61. 2. 24								
30		54. 31. 58											
27	The Sun.			120. 28. 54	119. 8. 0								
28		112. 22. 50	111. 1. 36	109. 40. 15	108. 18. 49								
29		101. 29. 48	100. 7. 34	98. 45. 10	97. 22. 36								
30		90. 26. 52	89. 3. 3	87. 39. 0	86. 14. 41								
31		79. 9. 12	77. 43. 15	76. 16. 59	74. 50. 24								

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Distances of γ 's Center from $\odot$, and from Stars east of her.

DAYS.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	The Sun.	76. 7. 1	74. 43. 59	73. 20. 44	71. 57. 15
2		64. 56. 10	63. 31. 12	62. 5. 58	60. 40. 27
3		53. 28. 34	52. 1. 15	50. 33. 37	49. 5. 40
4		41. 41. 15	40. 11. 25	38. 41. 16	
9	Aldeba- ran.	54. 29. 0	52. 41. 10	50. 53. 22	49. 5. 36
10		40. 7. 52	38. 20. 43	36. 33. 50	34. 47. 14
11		25. 59. 51			
11	Pollux.	67. 34. 39	65. 47. 10	63. 59. 51	62. 12. 41
12		53. 19. 48	51. 33. 52	49. 48. 13	48. 2. 51
13		39. 20. 46			
13	Regulus.	75. 42. 58	73. 57. 1	72. 11. 16	70. 25. 45
14		61. 41. 23	59. 57. 10	58. 13. 10	56. 29. 25
15		47. 54. 6	46. 11. 46	44. 29. 42	42. 47. 52
16		34. 22. 33	32. 42. 21	31. 2. 27	29. 22. 52
17		21. 10. 55	19. 34. 2	17. 57. 51	16. 22. 29
18	Spica α	61. 38. 11	60. 0. 10	58. 22. 20	56. 44. 42
19		48. 39. 31	47. 3. 4	45. 26. 49	43. 50. 46
20		35. 53. 33	34. 18. 43	32. 44. 5	31. 9. 40
21		23. 20. 58	21. 47. 56	20. 15. 11	18. 42. 45
22		11. 6. 32			
22	Antares.	56. 27. 52	54. 55. 42	53. 23. 44	51. 51. 57
23		44. 15. 40	42. 44. 55	41. 14. 20	39. 43. 53
24		32. 13. 53	30. 44. 20	29. 14. 58	27. 45. 46
25	α Aquilæ.	76. 22. 28	75. 3. 29	73. 44. 42	72. 26. 7
26		65. 56. 27	64. 39. 16	63. 22. 22	62. 5. 47
27		55. 47. 50			
27	Fomal- haut.	80. 52. 40	79. 32. 52	78. 13. 7	76. 53. 24
28		70. 15. 41	68. 56. 20	67. 37. 5	66. 17. 55
29		59. 43. 53	58. 25. 34	57. 7. 28	55. 49. 36
27	The Sun.	117. 47. 4	115. 26. 6	115. 5. 4	113. 43. 59
28		106. 57. 17	105. 35. 37	104. 13. 49	102. 51. 53
29		95. 59. 51	94. 36. 55	93. 13. 47	91. 50. 26
30		84. 50. 8	83. 25. 19	82. 0. 14	80. 34. 51
31		73. 23. 29	71. 56. 13	70. 28. 37	69. 0. 40

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MARCH 1769.

Distances of ♀'s Center from Stars, and from ☉ west of her.

Days.	Stars Names.	Noon.			3 Hours.			6 Hours.			9 Hours.		
		o	'	"	o	'	"	o	'	"	o	'	"
1	Spica ♋	58.	59.	24	60.	29.	24	61.	59.	36	63.	29.	58
2		71.	5.	0	72.	36.	43	74.	8.	42	75.	40.	56
3		83.	26.	16									
3	Antares.	37.	52.	44	39.	26.	31	41.	0.	39	42.	35.	8
4		50.	32.	43	52.	9.	16	53.	46.	11	55.	23.	28
5		63.	35.	25	65.	14.	56	66.	54.	49	68.	35.	5
6		77.	1.	53	78.	44.	19	80.	27.	7	82.	10.	15
11	The Sun.	43.	50.	9	45.	31.	6	47.	12.	2	48.	52.	56
12		57.	16.	14	58.	56.	36	60.	36.	50	62.	16.	56
13		70.	35.	12	72.	14.	22	73.	53.	21	75.	32.	10
14		83.	43.	23	85.	21.	2	86.	58.	28	88.	35.	42
15		96.	38.	46	98.	14.	45	99.	50.	31	101.	26.	4
16		109.	20.	31	110.	54.	48	112.	28.	52	114.	2.	44
15	Aldeba- ran.	25.	47.	57	27.	27.	24	29.	7.	8	30.	47.	4
16		39.	7.	39	40.	47.	44	42.	27.	46	44.	7.	44
17		52.	25.	48	54.	4.	59	55.	44.	2	57.	22.	56
18		65.	35.	13									
18	Pollux.	24.	28.	3	26.	0.	58	27.	34.	17	29.	7.	57
19		36.	59.	21	38.	33.	53	40.	8.	25	41.	42.	55
20		49.	34.	39									
20	Regulus.	12.	49.	32	14.	19.	29	15.	50.	15	17.	21.	38
21		25.	3.	33	26.	36.	16	28.	8.	57	29.	41.	36
22		37.	23.	43	38.	55.	50	40.	27.	51	41.	59.	44
23		49.	37.	11	51.	8.	16	52.	39.	13	54.	10.	2
24		61.	42.	1	63.	12.	2	64.	41.	57	66.	11.	45
25	Spica ♋	19.	37.	35	21.	6.	16	22.	34.	59	24.	3.	43
26		31.	26.	45	32.	55.	17	34.	23.	49	35.	52.	19
27		43.	14.	39	44.	43.	9	46.	11.	42	47.	40.	16
28		55.	3.	45	56.	32.	38	58.	1.	36	59.	30.	41
29		66.	57.	55	68.	27.	47	69.	57.	49	71.	28.	1
30		79.	1.	51									
30	Antares.	33.	30.	45	35.	1.	58	36.	33.	26	38.	5.	11
31		45.	48.	6	47.	21.	36	48.	55.	25	50.	29.	35

MARCH 1769.

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Distances of γ 's Center from Stars, and from $\odot$ west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	Spica α	65. 0. 32	66. 31. 19	68. 2. 18	69. 33. 33
2		77. 13. 27	78. 46. 13	80. 19. 18	81. 52. 38
3	Antares.	44. 9. 57	45. 45. 7	47. 20. 38	48. 56. 30
4		57. 1. 6	58. 39. 7	60. 17. 31	61. 56. 17
5		70. 15. 43	71. 56. 43	73. 38. 4	75. 19. 48
6		83. 53. 47			
10	The Sun.		38. 47. 19	40. 28. 14	42. 9. 11
11		50. 33. 46	52. 14. 31	53. 55. 11	55. 35. 45
12		63. 56. 54	65. 36. 43	67. 16. 22	68. 55. 52
13		77. 10. 48	78. 49. 14	80. 27. 29	82. 5. 32
14		90. 12. 44	91. 49. 33	93. 26. 10	95. 2. 34
15		103. 1. 24	104. 36. 30	106. 11. 23	107. 46. 3
16		115. 36. 23	117. 9. 48	118. 43. 0	120. 15. 58
14	Aldebaran.	19. 15. 16	20. 52. 18	22. 30. 14	24. 8. 51
15		32. 27. 8	34. 7. 13	35. 47. 20	37. 27. 29
16		45. 47. 36	47. 27. 21	49. 6. 57	50. 46. 26
17		59. 1. 41	60. 40. 17	62. 18. 45	63. 57. 3
18	Pollux.	30. 41. 53	32. 16. 3	33. 50. 23	35. 24. 50
19		43. 17. 24	44. 51. 50	46. 26. 12	48. 0. 28
20	Regulus.	18. 53. 31	20. 25. 44	21. 58. 13	23. 30. 50
21		31. 14. 12	32. 46. 43	34. 19. 8	35. 51. 29
22		43. 31. 30	45. 3. 8	46. 34. 37	48. 5. 59
23		55. 40. 43	57. 11. 14	58. 41. 37	59. 11. 53
24		67. 41. 27			
24	Spica α	13. 43. 18	15. 11. 44	16. 40. 17	18. 8. 54
25		25. 32. 24	27. 1. 1	28. 29. 37	29. 58. 12
26		37. 20. 49	38. 49. 17	40. 17. 44	41. 46. 11
27		49. 8. 53	50. 37. 31	52. 6. 12	53. 34. 57
28		60. 59. 52	62. 29. 10	63. 58. 37	65. 28. 12
29		72. 58. 23	74. 28. 57	75. 59. 43	7. 30. 41
30	Antares.	39. 37. 11	41. 9. 28	42. 42. 2	44. 14. 55
31		52. 4. 4	53. 38. 54	55. 14. 5	56. 49. 38

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MARCH 1769.

Configurations of the SATELLITES of JUPITER
at 2 o' th' Clock in the Morning.

1		2.	⊙	.1	.3	.4
2		1.	⊙		3.	.4
3			⊙	3 6 1 ²		4.
4	2 ●	.1	⊙			4.
5		3.	⊙	1.		4.
6		.3	⊙	.2	4.	
7	1 ●		⊙	.3	2.	
8		4.	⊙	.1	.3	
9			⊙	1.	3.	
10	4.		⊙	3 6 2		
11	.4	.1	⊙	2.		
12	.4	3.	⊙	1.		
13	2.0	.4	⊙	.1		
14	1 ●	.4	⊙	.3	2.	
15	1.0		⊙	.2	.4	
16		.2	⊙	1.	.4	.3
17			⊙	.1	.2	.4
18		1.	⊙	3.	2.	.4
19		3.	⊙	2.	1.	.4
20	2.0	.3	⊙	.1		
21		.3	⊙	1.	2.	4.
22	1.0		⊙	2.	.3	4.
23		.2	⊙	1.	4.	.3
24			⊙	.1	.2	3.
25	3 ●	4.	⊙	1.	2.	
26		4.	⊙	3.	2.	.1
27	4.	.3	⊙	.1	.2	
28			⊙	.3	1.	.2
29	.4		⊙	.1	.3	2 ●
30	1 ●	.4	⊙	.2		.3
31		.4	⊙	.1	.2	1.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.	
			D. H. '	
			New Moon—	6. 4. 43
			First Quarter—	12. 20. 1
			Full Moon—	20. 12. 42
			Last Quarter—	28. 16. 44
			Other Phenomena.	
			D.	
1	Sa.	[Sunday.	6. ♀ 3 post ζ	♂ diff. Lat. 55'.
2	Su.	1st Su. after Easter, Low-	9. ♂ infra cornu bor.	♂
3	M.	Richard, Bp. of Chich.	diff. Lat. 28'.	
4	Tu.	S. Ambrose. [begin.	10. ☾ infra cornu bor.	♂
5	W.	Oxf. and Camb. Terms	17h. 29'.	
6	Th.		11. ☾ " II 3h. 30'.	
7	F.		☾ μ II 1m. 6h. 54'. Em.	
8	Sa.		7h. 25'.	
9	Su.	2d Sunday after Easter.	☾ ζ II 23h. 15'.	
10	M.	From East. in 15 days,	☾ η 23h. 34'. diff. Lat.	
11	Tu.	[1 ret.	1° 32'.	
12	W.	Easter-Term begins.	14. ☾ ξ Ω 16h. 42'.	
13	Th.		☾ ο Ω 23h. 2'.	
14	F.		15. ☾ π Ω 6h. 51'.	
15	Sa.		17. ☾ ε Ω 6h. 16'.	
16	Su.	3d Sunday after Easter.	19. ☉ enters ♎ at 8h. 22'.	
17	M.	From East. in 3 weeks,	22. ☾ δ ♍ 21h. 38'.	
18	Tu.	[2 ret.	24. ☾ θ Ophiuchi 11h. 55'.	
19	W.	Alphege.	☾ β Ophiuchi 13h. 49'.	
20	Th.		26. ☾ ο ♎ 11h. 31'.	
21	F.		☾ π ♎ 14h. 2'.	
22	Sa.	[S. George.	30. ♂ ε II diff. Lat. 32'.	
23	Su.	4th Sunday after Easter,		
24	M.	From Easter in 1 month,		
25	Tu.	St. Mark [3 ret.		
26	W.			
27	Th.			
28	F.			
29	Sa.	[Rogat. Sunday.		
30	Su.	5th Sunday after Easter,		

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A P R I L 1769.

Days of the Month.	Days of the Week.	Sun's Longitude.				Sun's Right Asc. in Time.			Sun's Declin. North.			Equat. of Time. Add.		Diff.
		s	o	/'	''	m	/'	''	o	/'	''	/'	''	
1	Sa.	0.	12.	2.	1	0.	44.	15	4.	45.	46	3.48,8		18,2
2	Su.	0.	13.	1.	5	0.	47.	54	5.	8.	49	3.30,6		18,0
3	M.	0.	14.	0.	6	0.	51.	32	5.	31.	46	3.12,6		17,9
4	Tu.	0.	14.	59.	5	0.	55.	11	5.	54.	38	2.54,7		17,8
5	W.	0.	15.	58.	2	0.	58.	49	6.	17.	23	2.36,9		17,6
6	Th.	0.	16.	56.	58	1.	2.	28	6.	40.	2	2.19,3		17,3
7	F.	0.	17.	55.	51	1.	6.	8	7.	2.	34	2. 2,0		17,1
8	Sa.	0.	18.	54.	42	1.	9.	47	7.	24.	59	1.44,9		16,9
9	Su.	0.	19.	53.	31	1.	13.	27	7.	47.	16	1.28,0		16,6
10	M.	0.	20.	52.	18	1.	17.	8	8.	9.	26	1.11,4		16,3
11	Tu.	0.	21.	51.	2	1.	20.	47	8.	31.	27	0.55,1		16,0
12	W.	0.	22.	49.	44	1.	24.	27	8.	53.	20	0.39,1		15,8
13	Th.	0.	23.	48.	24	1.	28.	8	9.	15.	3	0.23,3		15,5
14	F.	0.	24.	47.	2	1.	31.	49	9.	36.	37	0. 7,8		15,2
15	Sa.	0.	25.	45.	37	1.	35.	30	9.	58.	2	Sub. 7,4		14,8
16	Su.	0.	26.	44.	10	1.	39.	12	10.	19.	17	0.22,2		14,4
17	M.	0.	27.	42.	41	1.	42.	54	10.	40.	21	0.36,6		14,1
18	Tu.	0.	28.	41.	10	1.	46.	37	11.	1.	15	0.50,7		13,7
19	W.	0.	29.	39.	36	1.	50.	20	11.	21.	58	1. 4,4		13,3
20	Th.	1.	0.	38.	1	1.	54.	3	11.	42.	30	1.17,7		12,8
21	F.	1.	1.	36.	24	1.	57.	46	12.	2.	51	1.30,5		12,4
22	Sa.	1.	2.	34.	44	2.	1.	30	12.	23.	0	1.42,9		11,9
23	Su.	1.	3.	33.	4	2.	5.	15	12.	42.	56	1.54,8		11,4
24	M.	1.	4.	31.	22	2.	9.	0	13.	2.	40	2. 6,2		11,0
25	Tu.	1.	5.	29.	38	2.	12.	46	13.	22.	11	2.17,2		10,5
26	W.	1.	6.	27.	52	2.	16.	32	13.	41.	30	2.27,7		9,9
27	Th.	1.	7.	26.	5	2.	20.	18	14.	0.	35	2.37,5		9,4
28	F.	1.	8.	24.	17	2.	24.	5	14.	19.	26	2.47,0		8,9
29	Sa.	1.	9.	22.	27	2.	27.	53	14.	38.	3	2.55,9		8,3
30	Su.	1.	10.	20.	36	2.	31.	41	14.	56.	26	3. 4,2		7,7

A P R I L 1769.

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Days of the Month.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	/ //	/ //	/ //		s o /
1	16. 2, 2	1. 4, 4	2. 27, 6	0. 000270	8. 27. 59
7	16. 0, 5	1. 4, 5	2. 27, 1	0. 001023	8. 27. 40
13	15. 58, 9	1. 4, 8	2. 26, 5	0. 001744	8. 27. 21
19	15. 57, 4	1. 5, 1	2. 26, 1	0. 002439	8. 27. 2
25	15. 55, 9	1. 5, 5	2. 25, 6	0. 003131	8. 26. 43

Eclipses of the SATELLITES of J U P I T E R.

I. Satellite. Immerfions.			II. Satellite. Immerfions.			III. Satellite. Immerfions.		
Days	h	/ //	Days	h	/ //	Days	h	/ //
2	1.	22. 26	4	12*	14. 37	7	16*	33. 16
3	19.	51. 24	8	1.	32. 25	14	20.	33. 3
5	14*	20. 21	11	14*	50. 4	22	0.	32. 31
7	8.	49. 19	15	4.	7. 42	29	4.	31. 45
9	3.	18. 18	18	17.	25. 14			
10	21.	47. 14	22	6.	42. 42			
12	16*	16. 13	25	20.	0. 11			
14	10*	45. 8	29	9*	17. 31			
16	5.	14. 6						
17	23.	43. 0				IV. Satellite. Conj.		
19	18.	11. 55				8	9. 42	fu. n.
21	12*	40. 49				16	18. 42	infr.
23	7.	9. 43				25	3. 42	fupr.
25	1.	38. 33						
26	20.	7. 25						
28	14*	36. 14						
30	9*	5. 3						

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A P R I L 1769.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /

MERCURY: greatest Elong. 10^d.

1	7. 25. 17	1. 10 S	11. 16. 39	0. 44 S	5. 57 S	22. 25
7	8. 11. 52	3. 5	11. 20. 34	1. 45	5. 21	22. 21
13	8. 28. 26	4. 45	11. 26. 29	2. 25	3. 37	22. 23
19	9. 15. 44	6. 4	0. 3. 54	2. 43	0. 56	22. 29
25	10. 4. 36	6. 52	0. 12. 35	2. 41	2. 31 N	22. 40

V E N U S.

1	5. 1. 29	3. 18 N	1. 27. 43	3. 38 N	23. 13 N	2. 54
7	5. 11. 14	3. 23	2. 3. 5	4. 0	24. 43	2. 54
13	5. 20. 58	3. 22	2. 8. 2	4. 19	25. 56	2. 53
19	6. 0. 41	3. 15	2. 12. 26	4. 33	26. 50	2. 50
25	6. 10. 23	3. 3	2. 16. 11	4. 41	27. 25	2. 44

M A R S.

1	3. 23. 41	1. 41 N	2. 19. 12	1. 35 N	24. 37 N	4. 28
7	3. 26. 24	1. 43	2. 22. 41	1. 34	24. 49	4. 21
13	3. 29. 8	1. 45	2. 26. 13	1. 33	25. 0	4. 15
19	4. 1. 50	1. 46	2. 29. 46	1. 32	24. 59	4. 9
25	4. 4. 31	1. 48	3. 3. 19	1. 31	24. 56	4. 2

J U P I T E R.

1	7. 15. 24	1. 3 N	7. 22. 16	1. 14 N	17. 10 S	14. 34
7	7. 15. 51	1. 3	7. 21. 46	1. 14	17. 2	14. 10
13	7. 16. 19	1. 3	7. 21. 14	1. 15	16. 53	13. 46
19	7. 16. 46	1. 2	7. 20. 37	1. 15	16. 42	13. 21
25	7. 17. 14	1. 2	7. 19. 55	1. 16	16. 31	12. 56

S A T U R N.

1	3. 17. 48	0. 10 S	3. 11. 26	0. 10 S	22. 49 N	6. 4
7	3. 18. 1	0. 9	3. 11. 42	0. 10	22. 48	5. 44
13	3. 18. 15	0. 8	3. 12. 0	0. 9	22. 47	5. 23
19	3. 18. 28	0. 8	3. 12. 21	0. 8	22. 46	5. 2
25	3. 18. 42	0. 7	3. 12. 46	0. 7	22. 45	4. 41

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Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S ° ' "	S ° ' "	° ' "	° ' "
1	Sa.	10. 4. 31. 40	10. 10. 59. 26	3. 4. 5 N	3. 30. 2 N
2	Su.	10. 17. 33. 56	10. 24. 15. 20	3. 53. 41	4. 14. 31
3	M.	11. 1. 3. 53	11. 7. 59. 37	4. 32. 7	4. 46. 6
4	Tu.	11. 15. 2. 14	11. 22. 11. 36	4. 55. 55	5. 1. 19
5	W.	11. 29. 26. 51	0. 6. 47. 25	5. 1. 56	4. 57. 39
6	Th.	0. 14. 12. 12	0. 21. 40. 12	4. 48. 17	4. 34. 0
7	F.	0. 29. 10. 5	1. 6. 40. 49	4. 14. 52	3. 51. 16
8	Sa.	1. 14. 11. 0	1. 21. 39. 38	3. 23. 39	2. 52. 38
9	Su.	1. 29. 5. 37	2. 6. 28. 17	2. 18. 45	1. 42. 49
10	M.	2. 13. 46. 44	2. 21. 0. 41	1. 5. 23 N	0. 27. 17 N
11	Tu.	2. 28. 9. 35	3. 5. 13. 28	0. 10. 51 S	0. 48. 20 S
12	W.	3. 12. 12. 10	3. 19. 5. 49	1. 24. 45	1. 59. 29
13	Th.	3. 25. 54. 26	4. 2. 38. 25	1. 32. 1	3. 2. 6
14	F.	4. 9. 17. 46	4. 15. 52. 58	3. 29. 18	3. 53. 30
15	Sa.	4. 22. 24. 10	4. 28. 51. 38	4. 14. 16	4. 31. 37
16	Su.	5. 5. 15. 35	5. 11. 36. 20	4. 45. 22	4. 55. 29
17	M.	5. 17. 54. 2	5. 24. 8. 59	5. 1. 52	5. 4. 36
18	Tu.	6. 0. 21. 12	6. 6. 30. 56	5. 3. 43	4. 59. 15
19	W.	6. 12. 38. 21	6. 18. 43. 30	4. 51. 24	4. 40. 13
20	Th.	6. 24. 46. 38	7. 0. 47. 50	4. 25. 58	4. 8. 47
21	F.	7. 6. 47. 15	7. 12. 45. 4	3. 48. 52	3. 26. 30
22	Sa.	7. 18. 41. 31	7. 24. 36. 51	3. 2. 0	2. 35. 30
23	Su.	8. 0. 31. 17	8. 6. 25. 13	2. 7. 20	1. 37. 50
24	M.	8. 12. 18. 56	8. 18. 12. 55	1. 7. 14	0. 35. 51 S
25	Tu.	8. 24. 7. 29	9. 0. 3. 21	0. 4. 1 S	0. 28. 0 N
26	W.	9. 6. 0. 54	9. 12. 0. 42	0. 59. 56 N	1. 31. 26
27	Th.	9. 18. 3. 24	9. 24. 9. 29	2. 2. 13	2. 31. 44
28	F.	10. 0. 19. 46	10. 6. 34. 44	2. 59. 57	3. 26. 23
29	Sa.	10. 12. 54. 56	10. 19. 21. 2	3. 50. 44	4. 12. 31
30	Su.	10. 25. 53. 25	11. 2. 32. 34	4. 31. 18	4. 46. 45

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A P R I L 1769.

Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declinat. at Noon.	D's Declin. at Midn.
			h /	° /	° /	° /	° /
1	Sa.	26	20. 20	306. 7	312. 28	16. 10 S	14. 8 S
2	Su.	27	21. 9	318. 48	325. 8	11. 53	9. 27
3	M.	28	21. 58	331. 29	337. 52	6. 52	4. 9 S
4	Tu.	29	22. 48	344. 19	350. 51	1. 21 S	1. 31 N
5	W.	30	23. 42	357. 29	4. 16	4. 24 N	7. 15
6	Th.	1	♂	11. 11	18. 16	10. 2	12. 41
7	F.	2	0. 38	25. 33	33. 1	15. 10	17. 24
8	Sa.	3	1. 37	40. 39	48. 26	19. 21	20. 59
9	Su.	4	2. 38	56. 20	64. 17	22. 14	23. 6
10	M.	5	3. 42	72. 16	80. 11	23. 34	23. 37
11	Tu.	6	4. 43	88. 0	95. 39	23. 17	22. 34
12	W.	7	5. 41	103. 7	110. 23	21. 30	20. 8
13	Th.	8	6. 35	117. 24	124. 12	18. 30	16. 38
14	F.	9	7. 26	130. 47	137. 10	14. 35	12. 23
15	Sa.	10	8. 13	143. 22	149. 25	10. 3	7. 38
16	Su.	11	8. 58	155. 20	161. 10	5. 10	2. 40 N
17	M.	12	9. 42	166. 55	172. 37	0. 9 N	2. 20 S
18	Tu.	13	10. 25	178. 18	183. 59	4. 47 S	7. 10
19	W.	14	11. 8	189. 42	195. 28	9. 28	11. 40
20	Th.	15	11. 53	201. 17	207. 10	13. 44	15. 39
21	F.	16	12. 38	213. 8	219. 11	17. 24	18. 58
22	Sa.	17	13. 26	225. 20	231. 34	20. 19	21. 27
23	Su.	18	14. 14	237. 53	244. 15	22. 22	23. 1
24	M.	19	15. 4	250. 40	257. 8	23. 25	23. 33
25	Tu.	20	15. 53	263. 36	270. 4	23. 24	23. 0
26	W.	21	16. 42	276. 30	282. 55	22. 20	21. 24
27	Th.	22	17. 31	289. 17	295. 36	20. 13	18. 49
28	F.	23	18. 18	301. 51	308. 5	17. 10	15. 19
29	Sa.	24	19. 5	314. 16	320. 26	13. 16	11. 2
30	Su.	25	19. 52	326. 36	332. 47	8. 39	6. 7

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Days of the Month.	Days of the Week.	Semidr. Δ at Noon.	Semidr. Δ at Mid-night.	Hor. Par. Δ at Noon.	Hor. Par. Δ at Midnight.	Propor. Lo- gar. at Noon.	Propor. Lo- gar. at Midn.
		1 11	1 11	1 11	1 11		
1	Sa.	15. 25	15. 32	56. 35	57. 1	5026	4992
2	Su.	15. 40	15. 47	57. 28	57. 56	4958	4923
3	M.	15. 55	16. 2	58. 23	58. 51	4890	4855
4	Tu.	16. 9	16. 16	59. 17	59. 41	4823	4794
5	W.	16. 22	16. 27	60. 3	60. 22	4768	4745
6	Th.	16. 31	16. 34	60. 38	60. 50	4725	4711
7	F.	16. 36	16. 37	60. 57	61. 0	4703	4699
8	Sa.	16. 37	16. 36	60. 59	60. 54	4700	4707
9	Su.	16. 33	16. 30	60. 45	60. 32	4717	4733
10	M.	16. 26	16. 21	60. 17	59. 59	4751	4772
11	Tu.	16. 15	16. 10	59. 40	59. 19	4796	4821
12	W.	16. 4	15. 58	58. 57	58. 35	4848	4875
13	Th.	15. 52	15. 46	58. 12	57. 51	4903	4930
14	F.	15. 40	15. 34	57. 29	57. 8	4957	4984
15	Sa.	15. 29	15. 24	56. 49	56. 30	5008	5032
16	Su.	15. 19	15. 15	56. 13	55. 56	5054	5076
17	M.	15. 10	15. 6	55. 41	55. 27	5096	5114
18	Tu.	15. 3	15. 0	55. 14	55. 2	5131	5146
19	W.	14. 57	14. 54	54. 51	54. 41	5161	5174
20	Th.	14. 52	14. 50	54. 32	54. 25	5186	5195
21	F.	14. 48	14. 47	54. 19	54. 14	5203	5210
22	Sa.	14. 46	14. 45	54. 10	54. 7	5215	5219
23	Su.	14. 44	14. 45	54. 6	54. 7	5221	5219
24	M.	14. 45	14. 46	54. 9	54. 13	5217	5211
25	Tu.	14. 48	14. 50	54. 19	54. 27	5203	5193
26	W.	14. 53	14. 57	54. 38	54. 50	5178	5162
27	Th.	15. 1	15. 5	55. 5	55. 22	5142	5120
28	F.	15. 10	15. 16	55. 41	56. 3	5095	5067
29	Sa.	15. 23	15. 30	56. 26	56. 51	5037	5005
30	Su.	15. 37	15. 45	57. 18	57. 47	4971	4934

Distances of J's Center from ☉, and from Stars east of her.													
Days.	Stars Names.	Noon.			3 Hours.			6 Hours.			9 Hours.		
		°	'	"	°	'	"	°	'	"	°	'	"
1	The Sun.	67.	32.	23	66.	3.	44	64.	34.	44	63.	5.	22
2		55.	32.	37	54.	0.	53	52.	28.	46	50.	56.	15
3		43.	7.	47	41.	32.	56	39.	57.	41	38.	22.	3
8	Pollux.	65.	38.	40	63.	47.	50	61.	57.	9	60.	6.	38
9		50.	57.	14	49.	8.	10	47.	19.	24	45.	30.	58
10	Regulus.	72.	50.	52	71.	1.	59	69.	13.	23	67.	25.	5
11		58.	28.	31	56.	42.	11	54.	56.	13	53.	10.	35
12		44.	27.	54	42.	44.	28	41.	1.	25	39.	18.	46
13		30.	51.	41	29.	11.	35	27.	31.	56	25.	52.	44
14		17.	46.	11	16.	11.	18	14.	37.	36	13.	5.	27
15	Spica ♏	58.	10.	27	56.	33.	33	54.	56.	53	53.	20.	29
16		45.	22.	4	43.	47.	4	42.	12.	18	40.	37.	44
17		32.	48.	11	31.	14.	53	29.	41.	48	28.	8.	56
18		20.	27.	52	18.	56.	25	17.	25.	14	15.	54.	22
19	Antares.	53.	43.	8	52.	12.	7	50.	41.	14	49.	10.	29
20		41.	38.	30	40.	8.	28	38.	38.	34	37.	8.	46
21		29.	41.	35									
21	α Aquilæ.	84.	41.	39	83.	21.	32	82.	1.	33	80.	41.	43
22		74.	4.	46	72.	45.	53	71.	27.	12	70.	8.	44
23		63.	39.	59	62.	23.	4	61.	6.	27.	59.	50.	10
24	Fomal- haut.	78.	41.	8	77.	21.	36	76.	2.	9	74.	42.	48
25		68.	7.	38	66.	48.	58	65.	30.	26	64.	12.	3
26	α Pegasi.	74.	50.	5	73.	23.	4	71.	55.	57	70.	28.	43
27		63.	11.	4	61.	43.	15	60.	15.	19	58.	47.	18
28		51.	25.	43	49.	57.	10	48.	28.	35	47.	0.	0
29		39.	37.	22									
26	The Sun.	120.	26.	40	119.	4.	10	117.	41.	30	116.	18.	41
27		109.	21.	55	107.	58.	0	106.	33.	51	105.	9.	29
28		98.	3.	51	96.	37.	55	95.	11.	42	93.	45.	11
29		86.	27.	59	84.	59.	32	83.	30.	44	82.	1.	33
30		74.	30.	10	72.	58.	42	71.	26.	50	69.	54.	33

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Distances of γ 's Center from $\odot$, and from Stars east of her.						
Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.	
		° ' "	° ' "	° ' "	° ' "	° ' "
1	The Sun.	61. 35. 36	60. 5. 26	58. 34. 53	57. 3. 56	
2		49. 23. 21	47. 50. 3	46. 16. 21	44. 42. 16	
3		36. 46. 1				
7	Pollux.	73. 2. 54	71. 11. 45	69. 20. 39	67. 29. 37	
8		58. 16. 16	56. 26. 8	54. 36. 15	52. 46. 37	
9		43. 42. 54				
9	Regulus.	80. 9. 2	78. 19. 8	76. 29. 27	74. 40. 2	
10		65. 37. 6	63. 49. 28	62. 2. 9	60. 15. 10	
11		51. 25. 18	49. 40. 24	47. 55. 52	46. 11. 42	
12		37. 36. 30	35. 54. 41	34. 13. 16	32. 32. 15	
13		24. 14. 5	22. 36. 3	20. 58. 41	19. 22. 2	
14	Spica μ	11. 35. 20				
14		64. 40. 42	63. 2. 44	61. 25. 3	59. 47. 37	
15		51. 44. 19	50. 8. 24	48. 32. 44	46. 57. 17	
16		39. 3. 24	37. 29. 17	35. 55. 22	34. 21. 40	
17		26. 36. 16	25. 3. 48	23. 31. 35	21. 59. 36	
18	Antares.	14. 23. 47				
18		59. 48. 36	58. 17. 1	56. 45. 35	55. 14. 17	
19		47. 39. 51	46. 9. 20	44. 38. 56	43. 8. 39	
20	α Aquilæ.	35. 39. 6	34. 9. 33	32. 40. 7	31. 10. 48	
21		79. 22. 0	78. 2. 26	76. 43. 3	75. 23. 49	
22		68. 50. 29	67. 32. 28	66. 14. 42	64. 57. 12	
23	Fomal- haut.	58. 34. 13				
23		83. 59. 51	82. 40. 6	81. 20. 23	80. 0. 43	
24		73. 23. 32	72. 4. 23	70. 45. 21	69. 26. 26	
25	α Pegasi.	62. 53. 48				
25		80. 37. 5	79. 10. 30	77. 43. 48	76. 17. 0	
26		69. 1. 22	67. 33. 56	66. 6. 25	64. 38. 48	
27		57. 19. 10	55. 50. 57	54. 22. 37	52. 54. 12	
28	The Sun.	45. 31. 23	44. 3. 47	42. 34. 15	41. 5. 46	
26		114. 55. 42	113. 32. 32	112. 9. 11	110. 45. 39	
27		103. 44. 53	102. 20. 1	100. 54. 53	99. 29. 30	
28		92. 18. 23	90. 51. 17	89. 23. 51	87. 56. 5	
29		80. 32. 2	79. 2. 9	77. 31. 53	76. 1. 13	
30		68. 21. 52	66. 48. 46	65. 15. 13	63. 41. 16	

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		Distances of J's Center from Stars, and from ☉ west of her.											
Days.	Stars Names.	Noon.			3 Hours.			6 Hours.			9 Hours.		
		°	'	''	°	'	''	°	'	''	°	'	''
1	Antares.	58.	25.	32	60.	1.	48	61.	38.	28	63.	15.	31
2		71.	26.	49	73.	5.	18	74.	46.	12	76.	26.	31
3		84.	54.	30									
3	β Capri- corni.	30.	8.	16	31.	51.	7	33.	34.	23	35.	18.	5
4		44.	2.	54	45.	49.	10	47.	35.	49	49.	22.	52
5		58.	23.	33									
9	The Sun.	39.	15.	32	40.	58.	39	42.	41.	35	44.	24.	19
10		52.	54.	54	54.	36.	20	56.	17.	31	57.	58.	26
11		66.	18.	33	67.	57.	40	69.	36.	29	71.	15.	0
12		79.	22.	38	80.	59.	11	82.	35.	25	84.	11.	19
13		92.	5.	55	93.	39.	54	95.	13.	34	96.	46.	56
14		104.	29.	4	106.	0.	38	107.	31.	55	109.	2.	56
15		116.	33.	50	118.	3.	14	119.	32.	22	121.	1.	15
13	Aldeba- ran.	49.	17.	40	50.	57.	56	52.	37.	57	54.	17.	44
14		62.	32.	38	64.	10.	51	65.	48.	49	67.	26.	32
15	Pollux.	34.	5.	47	35.	39.	20	37.	12.	55	38.	46.	31
16		46.	33.	35	48.	6.	44	49.	39.	47	51.	12.	42
17	Regulus.	21.	56.	28	23.	27.	47	24.	59.	12	26.	30.	40
18		34.	7.	47	35.	39.	3	37.	10.	14	38.	41.	21
19		46.	15.	40	47.	46.	14	49.	16.	43	50.	47.	6
20		58.	17.	41	59.	47.	32	61.	17.	18	62.	46.	58
21		70.	14.	5									
21	Spica 𐌸	16.	13.	41	17.	42.	14	19.	10.	50	20.	39.	27
22		28.	2.	48	29.	31.	27	31.	0.	5	32.	28.	42
23		39.	51.	34	41.	20.	7	42.	48.	39	44.	17.	12
24		51.	40.	2	53.	8.	40	54.	37.	21	56.	6.	4
25		63.	30.	20	64.	59.	24	66.	28.	33	67.	57.	48
26		75.	25.	43	76.	55.	41	78.	25.	47	79.	56.	1
27	Antares.	41.	59.	17	43.	30.	26	45.	1.	50	46.	33.	27
28		54.	15.	27	55.	48.	40	57.	22.	11	58.	55.	59
29		66.	49.	39	68.	25.	24	70.	1.	31	71.	38.	1
30	β Capricorni.	24.	58.	40	26.	37.	23	28.	16.	32	29.	56.	7

A P R I L 1769.

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Distances of ♄'s Center from Stars, and from ☉ west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	Antares.	64. 52. 57	66. 30. 48	68. 9. 4	69. 47. 44
2		78. 7. 15	79. 48. 25	81. 30. 0	83. 12. 2
3	♄ Capri- corni.	37. 2. 12	38. 46. 44	40. 31. 42	42. 17. 5
4		51. 10. 18	52. 58. 6	54. 46. 15	56. 34. 44
9	The Sun.	46. 6. 52	47. 49. 12	49. 31. 19	51. 13. 13
10		59. 39. 5	61. 19. 24	62. 59. 25	64. 39. 8
11		72. 53. 12	74. 31. 2	76. 8. 33	77. 45. 45
12		85. 46. 54	87. 22. 8	88. 57. 3	90. 31. 38
13		98. 19. 59	99. 52. 42	101. 25. 7	102. 57. 14
14		110. 33. 40	112. 4. 7	113. 34. 17	115. 4. 11
12	Aldeba- ran.	42. 34. 19	44. 15. 29	45. 56. 26	47. 37. 10
13		55. 57. 16	57. 36. 31	59. 15. 29	60. 54. 11
14		69. 4. 1			
14	Pollux.	27. 52. 31	29. 25. 38	30. 58. 54	32. 32. 18
15		40. 20. 5	41. 53. 35	43. 27. 0	45. 0. 20
16		52. 45. 30			
16	Regulus.	15. 53. 45	17. 23. 52	18. 54. 25	20. 25. 19
17		28. 2. 10	29. 33. 38	31. 5. 5	32. 36. 28
18		40. 12. 24	41. 43. 21	43. 14. 13	44. 44. 59
19		52. 17. 24	53. 47. 37	55. 17. 43	56. 47. 45
20		64. 16. 33	65. 46. 3	67. 15. 28	68. 44. 49
21	Spica ♏	22. 8. 6	23. 36. 46	25. 5. 27	26. 34. 8
22		33. 57. 19	35. 25. 54	36. 54. 28	38. 23. 1
23		45. 45. 45	47. 14. 18	48. 42. 51	50. 11. 26
24		57. 34. 49	59. 3. 36	60. 32. 27	62. 1. 22
25		69. 27. 9	70. 56. 36	72. 26. 11	73. 55. 53
26		81. 26. 25			
26	Antares.	35. 56. 38	37. 27. 1	38. 57. 35	40. 28. 20
27		48. 5. 19	49. 37. 27	51. 9. 51	52. 42. 31
28		60. 30. 5	62. 4. 29	63. 39. 12	65. 14. 15
29		73. 14. 54			
29	♄ Capri- corni.	18. 28. 6	20. 5. 6	21. 42. 31	23. 20. 23
30		31. 36. 8	33. 16. 35	34. 57. 28	36. 38. 47

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APRIL 1769.

Configurations of the SATELLITES of JUPITER
at 11 o'clock at Night.

1		3.	2.	⊙	.1	.4	
2		3.	1	⊙	2		.4
3			.3	⊙	.1	.2	.4
4			.1	⊙	.3		.4
5				⊙		.3	4.
6	2.0			.1	⊙		3. 4.
7	1 ●			⊙	3.	2.	4.
8			3. 2.	⊙	4	1	
9		3.	.2	⊙			
10		4.	.3	⊙	.1	.2	
11	4.		.1	⊙	2.		3.0
12	4.		2.	⊙	1.	.3	
13	.4		.1	⊙		3.	2.0
14	1 ● .4			⊙	3.	2.	
15	1.0	.4	3. 2.	⊙			
16		3.	.2 .4	⊙	1.		
17		.3		⊙	.4	.1.2	
18			1.	.3	⊙	2.	.4
19			2.	⊙	1.	.3	.4
20			.1	.2	⊙		3. .4
21				⊙	1.	3. .2	4.
22	1.0		3.2.	⊙			4.
23		3.	.2	1.	⊙		4.
24		.3		⊙	.1.2	4.	
25	4 ●		1.	.3	⊙	2.	
26			4. 2.	⊙	1.	.3	
27		4.	.1	.2	⊙		.3
28	4.			⊙	1.	.2	3.
29	4.		3	⊙	1		2 ●
30	.4		3.	.2	⊙		1 ●

Days of the Month.	Days of the Week.	Sundays, Hollidays, &c.	Phases of the Moon.
			D. H. /
1	M.	S. Phil. and S. Ja. From	New Moon — 5. 13. 3
2	Tu.	[East. in 5 weeks, 4 ret.	First Quarter — 12. 5. 38
3	W.	Invention of the Crofs.	Full Moon — 20. 4. 46
4	Th.	Ascension-day, Holy Th.	Last Quarter — 28. 4. 28
5	F.	Morrow of Ascen. 5 ret.	
6	Sa.	J. Evan. ante Port. Lat.	
7	Su.	Sun. after Ascension-day.	
8	M.	Term ends.	Other Phenomena.
9	Tu.		
10	W.		1. ♀ β δ diff. Lat. 44'.
11	Th.	Oxford Term ends.	4. ☾ η ⋈ 2 ^h . 0'.
12	F.		8. ☾ infra cornu bor. ♂
13	Sa.		2 ^h . 23'.
14	Su.	Whit-Sunday.	☾ η π 12 ^h . 3'.
15	M.	Whit-Monday.	☾ μ π 15 ^h . 6'.
16	Tu.	Whit-Tuesday.	9. ☾ ζ π Im. 7 ^h . 35'. Em.
17	W.		8 ^h . 14'. * 11' N. of
18	Th.		♂'s center.
19	F.	Q. Charlotte-bora, 1744	11. ☾ ξ ♄ 22 ^h . 52'.
20	Sa.	[Dunst.	12. ♀ Stationary.
21	Su.	Trinity-Sunday.	☾ ο ♄ 5 ^h . 7'.
22	M.	On morrow of H. Trin.	☾ π ♄ 12 ^h . 49'.
23	Tu.	[1 ret.	14. ☾ ε ♄ 11 ^h . 56'.
24	W.	Oxford Term begins.	20. ☾ enters π at 9 ^h . 7'.
25	Th.		☾ δ π 3 ^h . 48'.
26	F.	Augustin, Abp. C. Trin.	21. ☾ θ Ophiuchi 18 ^h . 3'.
27	Sa.	Ven. Bede. [Ter. begins.	☾ β Ophiuchi 19 ^h . 56'.
28	Su.	1st Sunday after Trinity.	22. ♀ δ π diff. Lat. 9'.
29	M.	K. Char. II. Rest. In 8	23. ☾ ο ♄ 17 ^h . 37'.
30	Tu.	[days of H. Tr. 2 ret.	☾ π ♄ 20 ^h . 9'.
31	W.		30. ♀ 3 post ζ ♂ diff. Lat. 41'.
			31. ♀ infra cornu bor. ♂ diff. Lat. 47'.
			☾ η ⋈ 12 ^h . 2'.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		s ° ' "	h ' "	° ' "	' "	"
1	M.	1. 11. 18. 44	2. 35. 30	15. 14. 35	3. 11,9	7,2
2	Tu.	1. 12. 16. 50	2. 39. 19	15. 32. 29	3. 19,1	6,6
3	W.	1. 13. 14. 55	2. 43. 9	15. 50. 7	3. 25,7	6,1
4	Th.	1. 14. 12. 18	2. 47. 0	16. 7. 29	3. 31,8	5,5
5	F.	1. 15. 11. 0	2. 50. 51	16. 24. 36	3. 37,3	4,9
6	Sa.	1. 16. 9. 0	2. 54. 43	16. 41. 27	3. 42,2	4,4
7	Su.	1. 17. 6. 59	2. 58. 35	16. 58. 1	3. 46,6	3,8
8	M.	1. 18. 4. 56	3. 2. 28	17. 14. 18	3. 50,4	3,2
9	Tu.	1. 19. 2. 51	3. 6. 21	17. 30. 17	3. 53,6	2,7
10	W.	1. 20. 0. 45	3. 10. 15	17. 45. 59	3. 56,3	2,1
11	Th.	1. 20. 58. 36	3. 14. 9	18. 1. 24	3. 58,4	1,5
12	F.	1. 21. 56. 27	3. 18. 4	18. 16. 30	3. 59,9	1,0
13	Sa.	1. 22. 54. 16	3. 22. 0	18. 31. 18	4. 0,9	0,4
14	Su.	1. 23. 52. 2	3. 25. 56	18. 45. 47	4. 1,3	0,1
15	M.	1. 24. 49. 47	3. 29. 52	18. 59. 57	4. 1,2	0,7
16	Tu.	1. 25. 47. 30	3. 33. 49	19. 13. 48	4. 0,5	1,2
17	W.	1. 26. 45. 11	3. 37. 47	19. 27. 19	3. 59,3	1,7
18	Th.	1. 27. 42. 51	3. 41. 46	19. 40. 30	3. 57,6	2,3
19	F.	1. 28. 40. 30	3. 45. 45	19. 53. 22	3. 55,3	2,8
20	Sa.	1. 29. 38. 7	3. 49. 44	20. 5. 53	3. 52,5	3,4
21	Su.	2. 0. 35. 43	3. 53. 44	20. 18. 4	3. 49,1	3,9
22	M.	2. 1. 33. 18	3. 57. 44	20. 29. 54	3. 45,2	4,5
23	Tu.	2. 2. 30. 51	4. 1. 45	20. 41. 23	3. 40,7	5,0
24	W.	2. 3. 28. 24	4. 5. 47	20. 52. 31	3. 35,7	5,5
25	Th.	2. 4. 25. 56	4. 9. 49	21. 3. 17	3. 30,2	6,0
26	F.	2. 5. 23. 27	4. 13. 52	21. 13. 42	3. 24,2	6,5
27	Sa.	2. 6. 20. 58	4. 17. 55	21. 23. 45	3. 17,7	7,0
28	Su.	2. 7. 18. 28	4. 21. 59	21. 33. 26	3. 10,7	7,6
29	M.	2. 8. 15. 57	4. 26. 3	21. 42. 45	3. 3,1	8,0
30	Tu.	2. 9. 13. 25	4. 30. 7	21. 51. 41	2. 55,1	8,5
31	W.	2. 10. 10. 53	4. 34. 12	22. 0. 14	2. 46,6	8,9

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Days.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	/ //	/ //	/ //		s o /
1	15. 54. 4	1. 5. 9	2. 25. 2	0. 003799	8. 26. 24
7	15. 53. 1	1. 6. 4	2. 24. 8	0. 004417	8. 26. 5
13	15. 51. 9	1. 6. 9	2. 24. 5	0. 004962	8. 25. 46
19	15. 50. 8	1. 7. 4	2. 24. 2	0. 005456	8. 25. 27
25	15. 49. 7	1. 7. 9	2. 23. 9	0. 005916	8. 25. 8

Eclipses of the SATELLITES of J U P I T E R.

I. Satellite. Immersion.		II. Satellite. Immersion.		III. Satellite.	
D.	h / //	D.	h / //	D.	h / //
2	3. 33. 48	2	22. 34. 38	6	8*30. 55 I
3	22. 2. 37	6	11*51. 45	13	14*11. 35 E
5	16*31. 20	Emerfions.		20	18. 9. 55 E
7	11* 0. 4	10	3. 36. 26	27	22. 7. 57 E
Emerfions.		13	16. 53. 24	IV. Satellite. Conj.	
9	7. 36. 30	17	6. 10. 10		
11	2. 5. 8	20	19. 26. 55	3	12. 42. infr.
12	20. 33. 50	24	8*43. 36	11	21. 41. supr.
14	15* 2. 28	27	22. 0. 16	20	6. 40. infr.
16	9*31. 7	31	11*16. 46	28	15. 38. supr.
18	3. 59. 40				
19	22. 28. 17				
21	16. 56. 49				
23	11*25. 22				
25	5. 53. 52				
27	0. 22. 23				
28	18. 50. 50				
30	13*19. 21				

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Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric La- titude.	Declina- tion.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /

M E R C U R Y. sup. ♂ 19^d. 6^h $\frac{1}{2}$.

1	10. 26. 5	56. 53 S	0. 22. 25	2. 19 S	6. 35 N	22. 53
7	11. 21. 25	5. 41	1. 3. 22	1. 38	11. 6	23. 10
13	0. 21. 47	2. 52	1. 15. 25	0. 43	15. 47	23. 34
19	1. 27. 13	1. 24 N	1. 28. 20	0. 20 N	20. 8	♂
25	3. 4. 56	5. 18	2. 11. 26	1. 17	23. 27	0. 29

V E N U S.

1	6. 20. 3	2. 45 N	2. 19. 7	4. 40 N	27. 40 N	2. 35
7	6. 29. 42	2. 23	2. 21. 2	4. 27	27. 37	2. 22
13	7. 9. 19	1. 57	2. 21. 44	4. 1	27. 13	2. 1
19	7. 18. 54	1. 28	2. 21. 0	3. 17	26. 26	1. 34
25	7. 28. 28	0. 56	2. 18. 53	2. 16	25. 16	1. 2

M A R S.

1	4. 7. 12	1. 49 N	3. 6. 53	1. 30 N	24. 47 N	3. 55
7	4. 9. 52	1. 50	3. 10. 29	1. 29	24. 31	3. 48
13	4. 12. 31	1. 50	3. 14. 5	1. 28	24. 10	3. 40
19	4. 15. 10	1. 51	3. 17. 41	1. 27	23. 43	3. 32
25	4. 17. 48	1. 51	3. 21. 19	1. 25	23. 10	3. 23

J U P I T E R.

♂ 8^d. 4^h $\frac{1}{2}$.

1	7. 17. 42	1. 1 N	7. 19. 11	1. 15 N	16. 21 S	12. 31
7	7. 18. 10	1. 1	7. 18. 25	1. 15	16. 9	12. 5
13	7. 18. 38	1. 1	7. 17. 38	1. 14	15. 56	11. 38
19	7. 19. 6	1. 0	7. 16. 53	1. 13	15. 43	11. 11
25	7. 19. 32	1. 0	7. 16. 11	1. 12	15. 31	10. 44

S A T U R N.

1	3. 18. 55	0. 7 S	3. 13. 15	0. 6 S	22. 43 N	4. 21
7	3. 19. 9	0. 6	3. 13. 46	0. 6	22. 41	4. 0
13	3. 19. 22	0. 5	3. 14. 20	0. 5	22. 37	3. 39
19	3. 19. 35	0. 5	3. 14. 56	0. 4	22. 33	3. 18
25	3. 19. 49	0. 4	3. 15. 34	0. 4	22. 29	2. 57

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Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		s o ' "	s o ' "	o ' "	o ' "
1	M.	11. 9. 18. 45	11. 16. 12. 16	4. 58. 37 N	5. 6. 22 N
2	Tu.	11. 23. 12. 54	0. 0. 20. 42	5. 9. 42	5. 8. 22
3	W.	0. 7. 35. 16	0. 14. 56. 5	5. 2. 7	4. 50. 52
4	Th.	0. 22. 22. 19	0. 29. 52. 54	4. 34. 33	4. 13. 20
5	F.	1. 7. 26. 47	1. 15. 2. 49	3. 47. 32	3. 17. 36
6	Sa.	1. 22. 39. 30	2. 0. 15. 44	2. 44. 4	2. 7. 34
7	Su.	2. 7. 50. 3	2. 15. 21. 28	1. 28. 57	0. 49. 0 N
8	M.	2. 22. 48. 51	3. 0. 11. 29	0. 8. 29 N	0. 31. 43 S
9	Tu.	3. 7. 28. 38	3. 14. 39. 59	1. 11. 1 S	1. 48. 38
10	W.	3. 21. 45. 8	3. 28. 44. 4	2. 24. 3	2. 56. 52
11	Th.	4. 5. 36. 46	4. 12. 23. 26	3. 26. 31	3. 52. 52
12	F.	4. 19. 4. 14	4. 25. 39. 30	4. 15. 36	4. 34. 44
13	Sa.	5. 2. 9. 35	5. 8. 34. 46	4. 49. 57	5. 1. 21
14	Su.	5. 14. 55. 29	5. 21. 12. 10	5. 8. 52	5. 12. 38
15	M.	5. 27. 25. 8	6. 3. 34. 51	5. 12. 39	5. 9. 2
16	Tu.	6. 9. 41. 36	6. 15. 45. 48	5. 1. 55	4. 51. 25
17	W.	6. 21. 47. 45	6. 27. 47. 46	4. 37. 46	4. 21. 8
18	Th.	7. 3. 46. 8	7. 9. 43. 15	4. 1. 38	3. 39. 36
19	F.	7. 15. 39. 9	7. 21. 34. 19	3. 15. 15	2. 48. 50
20	Sa.	7. 27. 28. 51	8. 3. 23. 4	2. 20. 33	1. 50. 50
21	Su.	8. 9. 17. 15	8. 15. 11. 41	1. 19. 51	0. 48. 0 S
22	M.	8. 21. 6. 33	8. 27. 2. 17	0. 15. 33 S	0. 17. 10 N
23	Tu.	9. 2. 59. 7	9. 8. 57. 31	0. 49. 49 N	1. 22. 8
24	W.	9. 14. 57. 49	9. 21. 0. 27	1. 53. 40	2. 24. 7
25	Th.	9. 27. 5. 44	10. 3. 14. 17	2. 53. 13	3. 20. 34
26	F.	10. 9. 26. 28	10. 15. 42. 52	3. 45. 52	4. 8. 42
27	Sa.	10. 22. 3. 54	10. 28. 29. 47	4. 28. 50	4. 45. 50
28	Su.	11. 5. 1. 12	11. 11. 38. 27	4. 59. 28	5. 9. 18
29	M.	11. 18. 21. 51	11. 25. 11. 37	5. 15. 6	5. 16. 34
30	Tu.	0. 2. 7. 51	0. 9. 10. 33	5. 13. 28	5. 5. 44
31	W.	0. 16. 19. 34	0. 23. 34. 49	4. 53. 3	4. 35. 35

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M A Y 1769.

Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declination at Noon.	D's Declination at Midn.
			h /	° /	° /	° /	° /
1	M.	26	20. 41	339. 1	345. 20	3. 28 S	0. 45 S
2	Tu.	27	21. 31	351. 44	358. 16	2. 3 N	4. 51 N
3	W.	28	22. 25	4. 58	11. 51	7. 38	10. 22
4	Th.	29	23. 23	18. 56	26. 15	12. 58	15. 23
5	F.	1	♂	33. 48	41. 33	17. 36	19. 31
6	Sa.	2	0. 24	49. 30	57. 36	21. 6	22. 19
7	Su.	3	1. 28	65. 47	74. 0	23. 7	23. 29
8	M.	4	2. 33	82. 10	90. 12	23. 25	22. 57
9	Tu.	5	3. 34	98. 4	105. 43	22. 5	20. 52
10	W.	6	4. 32	113. 6	120. 14	19. 20	17. 33
11	Th.	7	5. 25	127. 7	133. 44	15. 33	13. 23
12	F.	8	6. 14	140. 9	146. 22	11. 4	8. 40
13	Sa.	9	7. 0	152. 25	158. 20	6. 12	3. 42 N
14	Su.	10	7. 44	164. 8	169. 52	1. 12 N	1. 18 S
15	M.	11	8. 27	175. 33	181. 13	3. 46 S	6. 9
16	Tu.	12	9. 10	186. 54	192. 37	8. 28	10. 41
17	W.	13	9. 54	198. 22	204. 11	12. 48	14. 46
18	Th.	14	10. 38	210. 6	216. 5	16. 34	18. 13
19	F.	15	11. 25	222. 11	228. 21	19. 39	20. 53
20	Sa.	16	12. 13	234. 38	240. 58	21. 54	22. 40
21	Su.	17	13. 2	247. 23	253. 50	23. 11	23. 26
22	M.	18	13. 51	260. 19	266. 47	23. 26	23. 9
23	Tu.	19	14. 40	273. 14	279. 39	22. 36	21. 48
24	W.	20	15. 28	286. 1	292. 20	20. 45	19. 27
25	Th.	21	16. 15	298. 34	304. 44	17. 56	16. 12
26	F.	22	17. 1	310. 51	316. 55	14. 17	12. 11
27	Sa.	23	17. 47	322. 58	329. 0	9. 56	7. 32
28	Su.	24	18. 33	335. 2	341. 6	5. 2 S	2. 26 S
29	M.	25	19. 21	347. 15	353. 30	0. 14 N	2. 56 N
30	Tu.	26	20. 11	359. 52	6. 24	5. 38	8. 19
31	W.	27	21. 5	13. 8	20. 4	10. 56	13. 26

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Days of the Month.	Days of the Week.	Semidr. Δ at Noon.	Semidr. Δ at Mid-night.	Hor. Par. Δ at Noon.	Hor. Par. Δ at Midnight.	Proport. Log. at Noon.	Proport. Log. at Midn.
		/ //	/ //	/ //	/ //		
1	M.	15. 52	16. 0	58. 15	58. 44	4899	4864
2	Tu.	16. 8	16. 16	59. 13	59. 41	4828	4794
3	W.	16. 23	16. 29	60. 6	60. 30	4764	4735
4	Th.	16. 35	16. 39	60. 50	61. 6	4711	4592
5	F.	16. 42	16. 44	61. 18	61. 26	4578	4669
6	Sa.	16. 45	16. 44	61. 28	61. 26	4566	4669
7	Su.	16. 42	16. 39	61. 18	61. 6	4678	4692
8	M.	16. 35	16. 29	60. 50	60. 31	4711	4734
9	Tu.	16. 23	16. 17	60. 8	59. 44	4761	4790
10	W.	16. 9	16. 2	59. 18	58. 51	4822	4855
11	Th.	15. 55	15. 47	58. 24	57. 57	4889	4922
12	F.	15. 40	15. 33	57. 30	57. 5	4955	4987
13	Sa.	15. 27	15. 21	56. 41	56. 19	5018	5046
14	Su.	15. 15	15. 10	55. 58	55. 39	5073	5098
15	M.	15. 5	15. 1	55. 22	55. 7	5120	5140
16	Tu.	14. 57	14. 54	54. 53	54. 41	5158	5174
17	W.	14. 51	14. 49	54. 32	54. 23	5186	5198
18	Th.	14. 47	14. 46	54. 16	54. 11	5207	5214
19	F.	14. 45	14. 44	54. 7	54. 5	5219	5222
20	Sa.	14. 44	14. 44	54. 3	54. 3	5225	5225
21	Su.	14. 44	14. 45	54. 5	54. 7	5222	5219
22	M.	14. 46	14. 47	54. 11	54. 17	5214	5206
23	Tu.	14. 49	14. 52	54. 24	54. 33	5197	5185
24	W.	14. 54	14. 58	54. 43	54. 55	5171	5155
25	Th.	15. 1	15. 6	55. 8	55. 24	5138	5118
26	F.	15. 10	15. 16	55. 41	56. 1	5095	5069
27	Sa.	15. 21	15. 28	56. 22	56. 44	5042	5014
28	Su.	15. 34	15. 41	57. 9	57. 34	4983	4951
29	M.	15. 48	15. 56	58. 1	58. 28	4917	4883
30	Tu.	16. 3	16. 11	58. 55	59. 22	4850	4817
31	W.	16. 18	16. 24	59. 48	60. 12	4786	4757

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M A Y 1769.

Distances of γ 's Center from $\odot$, and from Stars east of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1	The Sun.	62. 6. 52	60. 32. 1	58. 56. 43	57. 21. 1
2		49. 16. 0	47. 37. 41	45. 58. 57	44. 19. 49
3		35. 58. 4			
7	Regulus.	78. 47. 18	76. 54. 9	75. 1. 14	73. 8. 33
8		63. 48. 58	61. 57. 55	60. 7. 12	58. 16. 50
9		49. 10. 41	47. 22. 39	45. 35. 3	43. 47. 54
10		34. 59. 10	33. 14. 56	31. 31. 15	29. 48. 6
11		21. 21. 53	19. 42. 54	18. 4. 55	16. 28. 8
12	Spica α	61. 29. 51	59. 50. 49	58. 12. 9	56. 33. 50
13		48. 27. 30	46. 51. 15	45. 15. 19	43. 39. 42
14		35. 46. 8	34. 12. 17	32. 38. 42	31. 5. 24
15		23. 22. 57	21. 51. 15	20. 19. 51	18. 48. 47
16		11. 19. 22			
16	Antares.	56. 38. 50	55. 8. 3	53. 37. 25	52. 6. 56
17		44. 36. 29	43. 6. 46	41. 37. 9	40. 7. 39
18		32. 41. 44			
18	α Aquilæ.	87. 24. 59	86. 4. 53	84. 44. 54	83. 25. 0
19		76. 47. 17	75. 28. 7	74. 9. 7	72. 50. 15
20		66. 18. 43	65. 1. 4	63. 43. 42	62. 26. 36
21	Fomalhaut.	81. 26. 2	80. 6. 18	78. 46. 38	77. 27. 2
22		70. 50. 25	69. 31. 26	68. 12. 34	66. 53. 51
23	α Pegasi.	77. 44. 43	76. 17. 48	74. 50. 48	73. 23. 46
24		66. 7. 46	64. 40. 24	63. 12. 59	61. 45. 32
25		54. 27. 47	53. 0. 8	51. 32. 29	50. 4. 52
26		42. 47. 23	41. 20. 13	39. 53. 12	38. 26. 22
27	α Arietis.	71. 53. 26	70. 18. 12	68. 42. 42	67. 6. 55
28		59. 3. 14	57. 25. 33	55. 47. 33	54. 9. 13
26	The Sun.	115. 53. 23	114. 26. 56	113. 0. 14	111. 33. 16
27		104. 14. 23	102. 45. 47	101. 16. 54	99. 47. 42
28		92. 16. 45	90. 45. 32	89. 13. 57	87. 42. 1
29		79. 56. 41	78. 22. 27	76. 47. 49	75. 12. 47
30		67. 11. 36	65. 34. 8	63. 56. 16	62. 17. 59
31		54. 0. 26	52. 19. 41	50. 38. 32	48. 56. 59

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Distances of γ 's Center from $\odot$, and from Stars east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		$\circ$	$\circ$ / //	$\circ$ / //	$\circ$ / /
1	The Sun.	55. 44. 51	54. 8. 17	52. 31. 16	50. 53. 51
2		42. 40. 15	41. 0. 17	39. 19. 56	37. 39. 12
7	Regulus.	71. 16. 6	69. 23. 54	67. 31. 58	65. 40. 29
8		56. 26. 49	54. 37. 11	52. 47. 57	50. 59. 7
9		42. 1. 11	40. 14. 56	38. 29. 11	36. 43. 56
10		28. 5. 33	26. 23. 36	24. 42. 19	23. 1. 43
11	Spica α	14. 52. 37			
11		68. 9. 45	66. 29. 12	64. 49. 2	63. 9. 15
12		54. 55. 53	53. 18. 17	51. 41. 1	50. 4. 6
13		42. 4. 24	40. 29. 24	38. 54. 41	37. 20. 16
14		29. 32. 22	27. 59. 36	26. 27. 7	24. 54. 54
15		17. 18. 4	15. 47. 44	14. 17. 50	12. 48. 22
16	Antares.	50. 36. 35	49. 6. 22	47. 36. 17	46. 6. 19
17		38. 38. 16	37. 8. 59	35. 39. 48	34. 10. 43
18	α Aquilæ.	82. 5. 13	80. 45. 33	79. 26. 0	78. 6. 35
19		71. 31. 34	70. 13. 2	68. 54. 43	67. 36. 37
20		61. 9. 47			
20	Fomalhaut.	86. 45. 16	85. 25. 26	84. 5. 37	82. 45. 49
21		76. 7. 31	74. 48. 5	73. 28. 45	72. 9. 32
22		65. 35. 17			
22	α Pegasi.	83. 31. 49	82. 5. 8	80. 38. 24	79. 11. 35
23		71. 56. 40	70. 29. 31	69. 2. 19	67. 35. 4
24		60. 18. 2	58. 50. 31	57. 22. 58	55. 55. 23
25		48. 37. 15	47. 9. 39	45. 42. 8	44. 14. 42
26		36. 59. 44			
26	α Arietis.	78. 11. 45	76. 37. 33	75. 3. 5	73. 28. 23
27		65. 30. 49	63. 54. 23	62. 17. 39	60. 40. 36
28	The Sun.	52. 30. 35			
25			120. 11. 18	118. 45. 33	117. 19. 35
26		110. 6. 3	108. 38. 33	107. 10. 46	105. 42. 43
27		98. 18. 12	96. 48. 21	95. 18. 9	93. 47. 37
28		86. 9. 43	84. 37. 2	83. 3. 58	81. 30. 31
29		73. 37. 22	72. 1. 32	70. 25. 18	68. 48. 39
30		60. 39. 17	59. 0. 11	57. 20. 41	55. 40. 46
31		47. 15. 3	45. 32. 44	43. 50. 3	42. 7. 1

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M A Y 1769.

Distances of ♄'s Center from Stars, and from ☉ west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1	♄ Capricorni.	38. 20. 32	40. 2. 45	41. 45. 26	43. 28. 34
2		56. 54. 21	58. 24. 26	59. 55. 24	61. 27. 15
3	α Aquilæ.	69. 18. 21	70. 54. 40	72. 31. 35	74. 9. 4
4		82. 24. 4	84. 4. 18	85. 44. 52	87. 25. 43
8					39. 54. 45
9		48. 26. 26	50. 7. 43	51. 48. 38	53. 29. 10
10		61. 45. 59	63. 24. 9	65. 1. 54	66. 39. 15
11	The Sun.	74. 39. 53	76. 14. 48	77. 49. 19	79. 23. 26
12		87. 8. 16	88. 40. 7	90. 11. 36	91. 42. 44
13		99. 13. 19	100. 42. 27	102. 11. 17	103. 39. 49
14		110. 58. 6	112. 24. 58	113. 51. 35	115. 17. 57
12	Pollux.	30. 58. 19	32. 33. 9	34. 7. 58	35. 42. 45
13		43. 35. 16	45. 9. 21	46. 43. 15	48. 16. 56
14		19. 6. 44	20. 37. 39	22. 8. 45	23. 39. 59
15		31. 16. 1	32. 47. 3	34. 18. 0	35. 48. 52
16	Regulus.	43. 21. 33	44. 51. 45	46. 21. 53	47. 51. 53
17		55. 20. 29	56. 49. 56	58. 19. 19	59. 48. 37
18		67. 14. 3			
18		13. 15. 56	14. 43. 44	16. 11. 40	17. 39. 42
19		25. 1. 12	26. 29. 39	27. 58. 7	29. 26. 36
20	Spica ♏	36. 49. 11	38. 17. 44	39. 46. 18	41. 14. 53
21		48. 38. 8	50. 6. 52	51. 35. 39	53. 4. 28
22		60. 29. 6	61. 58. 11	63. 27. 20	64. 56. 33
23		72. 23. 43	73. 53. 24	7. 23. 12	76. 53. 5
24		38. 54. 47	40. 25. 11	41. 55. 45	43. 26. 28
25	Antares.	51. 2. 30	52. 34. 16	54. 6. 14	55. 38. 24
26		63. 22. 27	64. 55. 58	66. 29. 44	68. 3. 46
27	♄ Capri	21. 9. 45	2. 45. 20	24. 21. 14	25. 57. 28
28	corni.	34. 3. 46	35. 42. 5	37. 20. 46	38. 59. 50
29		52. 46. 50	54. 11. 32	55. 37. 11	57. 3. 46
30	α Aquilæ.	64. 29. 27	66. 0. 52	67. 32. 57	69. 5. 42
31		76. 58. 31	78. 34. 5	80. 11. 42	81. 48. 55

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Days.		Distances of γ 's Center from Stars, and from $\odot$ west of her														
		Stars Names.	12 Hours.			15 Hours.			18 Hours.			21 Hours.				
			$^{\circ}$	'	"	$^{\circ}$	'	"	$^{\circ}$	'	"	$^{\circ}$	'	"		
1	2	β Capr. corni.	45.	12.	10											
1		α Aquilæ.	51.	4.	21	52.	30.	14	53.	57.	13	55.	25.	17		
2			62.	59.	59	64.	33.	29	66.	7.	43	67.	42.	40		
3			75.	47.	8	77.	25.	43	79.	4.	44	80.	44.	11		
4			89.	6.	49											
8		The Sun.	41.	37.	45	43.	20.	25	45.	2.	46	46.	44.	46		
9			55.	9.	20	56.	49.	5	58.	28.	27	60.	7.	25		
10			68.	16.	12	69.	52.	44	71.	28.	51	73.	4.	34		
11			80.	57.	10	82.	30.	30	84.	3.	28	85.	36.	3		
12			93.	13.	31	94.	43.	58	96.	14.	5	97.	43.	52		
13			105.	8.	2	106.	35.	58	108.	3.	37	109.	31.	0		
14			116.	44.	4	118.	9.	57	119.	35.	37	121.	1.	3		
12		Pollux.	37.	17.	28	38.	52.	6	40.	26.	37	42.	1.	1		
13			49.	50.	23											
13		Regulus.	13.	7.	59	14.	36.	28	16.	5.	55	17.	36.	5		
14			25.	11.	13	26.	42.	30	28.	13.	45	29.	44.	55		
15			37.	19.	38	38.	50.	16	40.	20.	48	41.	51.	14		
16			49.	21.	48	50.	51.	37	52.	21.	20	53.	50.	57		
17			61.	17.	51	62.	47.	0	64.	16.	5	65.	45.	6		
18		Spica π	19.	7.	51	20.	36.	5	22.	4.	24	23.	32.	46		
19			30.	55.	7	32.	23.	37	33.	52.	8	35.	20.	39		
20			42.	43.	29	44.	12.	6	45.	40.	45	47.	9.	26		
21			54.	33.	18	56.	2.	11	57.	31.	6	59.	0.	5		
22			66.	25.	51	67.	55.	12	69.	24.	37	70.	54.	8		
23			78.	23.	5											
23		Antares.	32.	54.	39	34.	24.	28	35.	54.	25	37.	24.	32		
24			44.	57.	21	46.	28.	23	47.	59.	34	49.	30.	56		
25			57.	10.	47	58.	43.	22	60.	16.	10	61.	49.	12		
26			69.	38.	4											
26		β Capri-corni.	14.	50.	34	16.	24.	54	17.	59.	33	19.	34.	30		
27			27.	34.	2	29.	10.	57	30.	48.	12	32.	25.	49		
28			40.	39.	15											
28		α Aquilæ.	47.	18.	51	48.	39.	9	50.	0.	36	51.	23.	11		
29			58.	31.	18	59.	59.	40	61.	28.	48	62.	58.	44		
30			70.	39.	7	72.	13.	8	73.	47.	44	75.	22.	54		
31			83.	26.	36											
31		α Pegafi.	35.	40.	17	37.	20.	8	39.	1.	0	40.	42.	49		

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Configurations of the SATELLITES of J U P I T E R at 9 o' th' Clock in the Evening.

1		4	3	○	1.2	
2			4	3	○	2.
3			2.	4	○	1.3
4			1	2	○	4
5					○	1. 2. 3. 4.
6	3 ●			1	○	2. 4.
7			3.2.		○	1. 4.
8	1.0 2.0		3		○	4.
9			3	1.	○	2. 4.
10			2.		○	3 6 1 4.
11			2	1.	○	4. 3
12			4.		○	1.2 3.
13			4	1	○	3.2.
14			4.	2	3	○ 1.
15	4.		3		1	○ 2.0
16	4		3		○	2. 1 ●
17	4			2.	○	3 6 1
18			4	2	1.	○ 3
19			4		○	2 6 1 3.
20			1		4	○ 3.2.
21			2	3	○	1. 4.
22			3.		1.2	○ 4.
23	1 ●		3		○	2. 4.
24	3.0			2.	1	○ 4.
25			3	1.	○	3 4.
26					○	2.1 3. 4.
27			1.		○	3.2. 4.
28			2.3.		4.	1.
29			3.	4.	1.2	○
30			4	3	○	1. 2.
31			4.		○	3.0 2 ● 1.0

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D h /
			New Moon — 3. 26. 22
			First Quarter — 10. 17. 1
			Full Moon — 18. 20. 15
			Last Quarter — 26. 12. 46
			Other Phenomena.
			3. ☉ eclipsed, visible.
			♀ passes over ☉.
			h /
			Beg. of Ing. cent. ☉ 7. 13
			Total Ingress — 7. 32
			Beg. of Egress — 13. 14
			Total Egress — 13. 33
			Beg. of Ingress at
			Greenwich — 7. 6
			Total Ingress — 7. 25
			4. ☾ infra cornu bor. ☽
			12h. 53'.
			☾ ♀ II 22 ^h . 22'.
			5. ☾ ♀ II 1 ^h . 21'.
			☾ ♀ II 17 ^h . 0'.
			7. ♀ ☽ II diff. Lat. 3'.
			8. ☾ ☽ Ω 6 ^h . 47'.
			☾ ☽ Ω 12 ^h . 49'.
			☾ ☽ Ω 22 ^h . 6'.
			10. ☾ ☽ Ω 18 ^h . 25'.
			16. ☾ ♀ III 9 ^h . 52'.
			18. ☾ ☽ Ophiuchi 0 ^h . 4'.
			☾ B Ophiuchi 1 ^h . 57'.
			☽ eclipsed invisible.
			19. ☾ ☽ ♀ 23 ^h . 25'.
			20. ☾ ☽ ♀ 1 ^h . 55'.
			☽ enters ☽ at 17 ^h .
			56'.
			24. ♀ ☽ ☽ diff. Lat. 1°. 5'.
			25. ♀ Stationary.
			27. ☾ ☽ ☽ 19 ^h . 58'.

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J U N E 1769.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Sub.	Diff.
		s o ' "	h ' "	o ' "	' "	"
1	Th.	2. 11. 8. 20	4. 38. 18	22. 8. 25	2. 37, 7	9,3
2	F.	2. 12. 5. 46	4. 42. 24	22. 16. 12	2. 28, 4	9,7
3	Sa.	2. 13. 3. 12	4. 46. 30	22. 23. 36	2. 18, 7	10,0
4	Su.	2. 14. 0. 37	4. 50. 36	22. 30. 37	2. 8, 7	10,4
5	M.	2. 14. 58. 1	4. 54. 43	22. 37. 14	1. 58, 3	10,7
6	Tu.	2. 15. 55. 24	4. 58. 51	22. 43. 28	1. 47, 6	11,1
7	W.	2. 16. 52. 47	5. 2. 58	22. 49. 18	1. 36, 5	11,3
8	Th.	2. 17. 50. 8	5. 7. 6	22. 54. 43	1. 25, 2	11,5
9	F.	2. 18. 47. 28	5. 11. 14	22. 59. 44	1. 13, 7	11,7
10	Sa.	2. 19. 44. 48	5. 15. 23	23. 4. 21	1. 2, 0	11,9
11	Su.	2. 20. 42. 6	5. 19. 31	23. 8. 34	0. 50, 1	12,1
12	M.	2. 21. 39. 23	5. 23. 40	23. 12. 23	0. 38, 0	12,3
13	Tu.	2. 22. 36. 40	5. 27. 49	23. 15. 47	0. 25, 7	12,5
14	W.	2. 23. 33. 56	5. 31. 58	23. 18. 46	0. 13, 2	12,6
15	Th.	2. 24. 31. 11	5. 36. 7	23. 21. 21	0. 0, 6	12,6
16	F.	2. 25. 28. 25	5. 40. 16	23. 23. 30	Ad: 12, 0	12,7
17	Sa.	2. 26. 25. 38	5. 44. 25	23. 25. 15	0. 24, 7	12,8
18	Su.	2. 27. 22. 51	5. 48. 35	23. 26. 36	0. 37, 5	12,8
19	M.	2. 28. 20. 4	5. 52. 44	23. 27. 32	0. 50, 3	12,9
20	Tu.	2. 29. 17. 16	5. 56. 54	23. 28. 3	1. 3, 2	12,9
21	W.	3. 0. 14. 28	6. 1. 3	23. 28. 9	1. 16, 1	12,8
22	Th.	3. 1. 11. 39	6. 5. 12	23. 27. 50	1. 28, 9	12,7
23	F.	3. 2. 8. 51	6. 9. 22	23. 27. 7	1. 41, 6	12,7
24	Sa.	3. 3. 6. 3	6. 13. 31	23. 25. 59	1. 54, 3	12,7
25	Su.	3. 4. 3. 15	6. 17. 40	23. 24. 26	2. 7, 0	12,6
26	M.	3. 5. 0. 27	6. 21. 50	23. 22. 28	2. 19, 6	12,4
27	Tu.	3. 5. 57. 39	6. 25. 59	23. 20. 6	2. 32, 0	12,3
28	W.	3. 6. 54. 52	6. 30. 8	23. 17. 19	2. 44, 3	12,1
29	Th.	3. 7. 52. 5	6. 34. 16	23. 14. 7	2. 56, 4	11,9
30	F.	3. 8. 49. 18	6. 38. 25	23. 10. 31	3. 8, 3	11,7

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Days.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	I II	I II	I II		S ° I
1	15. 48, 8	1. 8, 3	2. 23, 6	0. 005386	8. 24. 46
7	15. 48, 1	1. 8, 6	2. 23, 3	0. 006700	8. 24. 27
13	15. 47, 5	1. 8, 7	2. 23, 2	0. 006925	8. 24. 8
19	15. 47, 1	1. 8, 8	2. 23, 0	0. 007089	8. 23. 48
25	15. 46, 9	1. 8, 8	2. 23, 0	0. 007203	8. 23. 29

Eclipses of the SATELLITES of J U P I T E R.

I. Satellite. Emerfions.			II. Satellite. Emerfions.			III. Satellite.		
D.	h	I II	D.	h	I II	D.	h	I II
1	7. 47. 46		4	0. 33. 14		4	2. 5. 43	E
3	2. 16. 11		7	13* 49. 32		11	6. 3. 18	E
4	20. 44. 39		11	3. 5. 56		18	8. 17. 37	I
6	15. 12. 59		14	16. 22. 19		18	10* 0. 53	E
8	9* 41. 26		18	5. 38. 44		25	12* 15. 1	I
10	4. 9. 44		21	18. 55. 10		25	13. 58. 34	E
11	22. 38. 9		25	8. 11. 48		IV. Satellite. Conj.		
13	17. 6. 31		25	21. 28. 14				
15	11* 34. 55					6	0. 36	Infr.
17	6. 3. 17					14	9. 34	Supr.
19	0. 31. 41					22	18. 31	Infr.
20	19. 0. 2							
22	13* 28. 30							
24	7. 56. 58							
26	2. 25. 20							
27	20. 53. 43							
29	15. 2. 11							

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JUNE 1769.

Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric Lati- tude.	Declina- tion.	Passage over Merid.
	s o /	o /	s o /	o /	p /	h /

MERCURY. greatest Elong. 22^d.

1	4. 15. 33	6. 59 N	2. 25. 46	1. 58 N	25. 22 N	1. 3
7	5. 14. 29	6. 8	3. 6. 34	2. 5	25. 23	1. 26
13	6. 8. 24	4. 15	3. 15. 50	1. 45	24. 17	1. 41
19	6. 28. 45	2. 3	3. 23. 28	1. 0	22. 25	1. 49
25	7. 16. 50	0. 8 S	3. 29. 15	0. 5 S	20. 15	1. 48

VENUS. inf. ♂ 3^d. 10^h.

1	8. 9. 36	0. 18 N	2. 15. 0	0. 44 N	23. 21 N	0. 16
7	8. 19. 7	0. 16 S	2. 11. 17	0. 40 S	21. 30	23. 30
13	8. 28. 37	0. 49	2. 8. 3	1. 58	19. 44	22. 53
19	9. 8. 6	1. 21	2. 5. 54	3. 3	18. 18	22. 21
25	9. 17. 35	1. 51	2. 5. 12	3. 49	17. 26	21. 54

MARS.

1	4. 20. 53	1. 51 N	3. 25. 34	1. 23 N	22. 25 N	3. 13
7	4. 23. 31	1. 50	3. 29. 13	1. 21	21. 39	3. 4
13	4. 26. 8	1. 50	4. 2. 53	1. 19	20. 50	2. 55
19	4. 28. 46	1. 49	4. 6. 34	1. 18	19. 55	2. 45
25	5. 1. 23	1. 48	4. 10. 15	1. 16	18. 55	2. 35

JUPITER.

1	7. 20. 6	0. 59 N	7. 15. 24	1. 12 N	15. 20 S	10. 13
7	7. 20. 33	0. 59	7. 14. 48	1. 11	15. 12	9. 45
13	7. 21. 1	0. 58	7. 14. 19	1. 9	15. 4	9. 18
19	7. 21. 29	0. 58	7. 13. 54	1. 7	14. 58	8. 52
25	7. 21. 57	0. 58	7. 13. 35	1. 6	14. 53	8. 26

SATURN.

1	3. 20. 5	0. 4 S	3. 16. 22	0. 3 S	22. 25 N	2. 32
7	3. 20. 18	0. 3	3. 17. 4	0. 3	22. 20	2. 11
13	3. 20. 31	0. 2	3. 17. 47	0. 2	22. 15	1. 49
19	3. 20. 45	0. 2	3. 18. 31	0. 2	22. 10	1. 27
25	3. 20. 58	0. 1	3. 19. 16	0. 1	22. 4	1. 5

J U N E 1769.

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Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midnight.
		S ° ' "	S ° ' "	° ' "	° ' "
1	Th.	1. 0. 55. 30	1. 8. 21. 10	4. 13. 22 N	3. 46. 42 N
2	F.	1. 15. 51. 0	1. 23. 23. 49	3. 15. 57	2. 41. 27
3	Sa.	2. 0. 58. 45	2. 8. 34. 31	2. 3. 57	1. 24. 14
4	Su.	2. 16. 9. 53	2. 23. 43. 34	0. 42. 58 N	0. 1. 10 N
5	M.	3. 1. 14. 32	3. 8. 41. 39	0. 40. 28 S	1. 21. 4 S
6	Tu.	3. 16. 4. 5	3. 23. 20. 57	1. 59. 54	2. 36. 16
7	W.	4. 0. 31. 50	4. 7. 36. 15	3. 9. 38	3. 39. 39
8	Th.	4. 14. 34. 4	4. 21. 25. 18	4. 5. 50	4. 28. 10
9	F.	4. 28. 9. 48	5. 4. 47. 57	4. 46. 17	5. 0. 21
10	Sa.	5. 11. 19. 56	5. 17. 46. 15	5. 10. 12	5. 16. 2
11	Su.	5. 24. 7. 8	6. 0. 23. 15	5. 17. 53	5. 15. 54
12	M.	6. 6. 34. 57	6. 12. 42. 43	5. 10. 15	5. 1. 4
13	Tu.	6. 18. 47. 11	6. 24. 48. 46	4. 48. 40	4. 33. 6
14	W.	7. 0. 47. 55	7. 6. 45. 14	4. 14. 39	3. 53. 32
15	Th.	7. 12. 41. 3	7. 18. 35. 56	3. 30. 1	3. 4. 17
16	F.	7. 24. 30. 14	8. 0. 24. 16	2. 36. 38	2. 7. 18
17	Sa.	8. 6. 18. 29	8. 12. 13. 12	1. 36. 36	1. 4. 52 S
18	Su.	8. 18. 8. 39	8. 24. 5. 16	0. 32. 17 S	0. 0. 41 N
19	M.	9. 0. 3. 6	9. 6. 2. 32	0. 33. 45 N	1. 6. 40
20	Tu.	9. 12. 3. 54	9. 18. 7. 21	1. 38. 55	2. 10. 16
21	W.	9. 24. 13. 11	10. 0. 21. 35	2. 40. 20	3. 8. 42
22	Th.	10. 6. 32. 50	10. 12. 47. 18	3. 35. 7	3. 59. 9
23	F.	10. 19. 5. 3	10. 25. 26. 27	4. 20. 35	4. 38. 56
24	Sa.	11. 1. 51. 44	11. 8. 21. 8	4. 54. 4	5. 5. 34
25	Su.	11. 14. 54. 54	11. 21. 33. 17	5. 13. 14	5. 16. 50
26	M.	11. 28. 16. 23	0. 5. 4. 24	5. 16. 11	5. 11. 8
27	Tu.	0. 11. 57. 21	0. 18. 55. 24	5. 1. 32	4. 47. 26
28	W.	0. 25. 58. 22	1. 3. 6. 16	4. 28. 52	4. 5. 56
29	Th.	1. 10. 18. 43	1. 17. 35. 29	3. 38. 53	3. 8. 6
30	F.	1. 24. 55. 58	2. 2. 19. 41	2. 33. 54	1. 56. 59

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JUNE 1769.

Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declination at Noon.	D's Declination at Midn.
			h /	° /	° /	° /	° /
1	Th.	28	22. 3	27. 16	34. 42	15. 46 N	17. 53 N
2	F.	29	23. 5	42. 23	50. 17	19. 44	21. 15
3	Sa.	1	0	58. 22	66. 36	22. 24	23. 9
4	Su.	2	0. 9	74. 53	83. 10	23. 28	23. 20
5	M.	3	1. 14	91. 21	99. 22	22. 47	21. 50
6	Tu.	4	2. 16	107. 11	114. 44	20. 31	18. 53
7	W.	5	3. 13	122. 2	129. 3	16. 59	14. 51
8	Th.	6	4. 5	135. 49	142. 21	12. 34	10. 9
9	F.	7	4. 53	148. 40	154. 49	7. 39	5. 6 N
10	Sa.	8	5. 38	160. 49	166. 42	2. 32 N	0. 1 S
11	Su.	9	6. 22	172. 31	178. 15	2. 31 S	4. 59
12	M.	10	7. 5	183. 59	189. 43	7. 22	9. 39
13	Tu.	11	7. 48	195. 28	201. 16	11. 49	13. 51
14	W.	12	8. 32	207. 8	213. 4	15. 44	17. 28
15	Th.	13	9. 18	219. 6	225. 14	19. 0	20. 20
16	F.	14	10. 5	231. 27	237. 45	21. 27	22. 20
17	Sa.	15	10. 54	244. 8	250. 35	22. 59	23. 22
18	Su.	16	11. 43	257. 3	263. 34	23. 29	23. 20
19	M.	17	12. 32	270. 3	276. 32	22. 54	22. 13
20	Tu.	18	13. 21	282. 57	289. 20	21. 17	20. 5
21	W.	19	14. 8	295. 38	301. 51	18. 41	17. 2
22	Th.	20	14. 54	308. 1	314. 6	15. 11	13. 10
23	F.	21	15. 40	320. 8	326. 8	10. 59	8. 40
24	Sa.	22	16. 25	332. 6	338. 5	6. 14	3. 43 S
25	Su.	23	17. 10	344. 6	350. 10	1. 8 S	1. 30 N
26	M.	24	17. 58	356. 19	2. 35	4. 9 N	6. 46
27	Tu.	25	18. 49	9. 0	15. 36	9. 21	11. 51
28	W.	26	19. 43	22. 24	29. 26	14. 13	16. 25
29	Th.	27	20. 41	36. 41	44. 11	18. 23	20. 6
30	F.	28	21. 43	51. 55	59. 50	21. 31	22. 34

JUNE 1769.

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Days of the Month.	Days of the Week.	Semidr. at Noon.	Semidr. at Mid-night.	Hor. Par. at Noon.	Hor. Par. at Midnight.	Proport. Lo. at Noon.	Proport. Lo. at Midn.
1	Th.	16. 30	16. 35	60. 34	60. 53	4730	4708
2	F.	16. 40	16. 43	61. 9	61. 20	4689	4676
3	Sa.	16. 44	16. 45	61. 26	61. 28	4669	4666
4	Su.	16. 44	16. 42	61. 25	61. 17	4670	4679
5	M.	16. 38	16. 34	61. 4	60. 47	4694	4715
6	Tu.	16. 28	16. 22	60. 26	60. 3	4740	4768
7	W.	16. 14	16. 7	59. 36	59. 9	4800	4833
8	Th.	15. 59	15. 51	58. 40	58. 11	4869	4905
9	F.	15. 43	15. 36	57. 42	57. 14	4941	4976
10	Sa.	15. 28	15. 22	56. 47	56. 23	5010	5041
11	Su.	15. 15	15. 10	55. 59	55. 38	5072	5099
12	M.	15. 4	15. 0	55. 19	55. 3	5124	5145
13	Tu.	14. 56	14. 53	54. 48	54. 36	5165	5181
14	W.	14. 50	14. 48	54. 26	54. 18	5194	5205
15	Th.	14. 46	14. 45	54. 13	54. 9	5211	5217
16	F.	14. 45	14. 45	54. 7	54. 6	5219	5221
17	Sa.	14. 45	14. 45	54. 7	54. 10	5219	5215
18	Su.	14. 47	14. 48	54. 14	54. 19	5210	5203
19	M.	14. 50	14. 52	54. 26	54. 33	5194	5185
20	Tu.	14. 54	14. 57	54. 42	54. 52	5173	5159
21	W.	15. 0	15. 3	55. 3	55. 15	5145	5129
22	Th.	15. 7	15. 11	55. 28	55. 43	5112	5093
23	F.	15. 15	15. 20	55. 58	56. 15	5073	5051
24	Sa.	15. 25	15. 30	56. 33	56. 52	5028	5004
25	Su.	15. 35	15. 41	57. 12	57. 33	4979	4952
26	M.	15. 47	15. 53	57. 55	58. 17	4924	4897
27	Tu.	15. 59	16. 5	58. 39	59. 1	4870	4843
28	W.	16. 11	16. 17	59. 23	59. 44	4816	4790
29	Th.	16. 22	16. 27	60. 4	60. 21	4767	4746
30	F.	16. 31	16. 34	60. 36	60. 48	4728	4714

Distances of γ 's Center from Stars, and from $\odot$ east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
5	Regulus.	55. 23. 50	53. 31. 54	51. 40. 16	49. 48. 56
6		40. 37. 41	38. 48. 42	37. 0. 11	35. 12. 9
7		26. 20. 9	24. 35. 39	22. 51. 57	21. 9. 6
8		12. 53. 1			
8	Spica μ	65. 59. 17	64. 16. 3	62. 33. 18	60. 51. 0
9		52. 26. 14	50. 46. 34	49. 7. 19	47. 28. 29
10		39. 20. 27	37. 44. 0	36. 7. 56	34. 32. 15
11		26. 39. 23	25. 5. 53	23. 32. 44	21. 59. 56
12	Antares.	14. 22. 4			
12		59. 44. 21	58. 12. 36	56. 41. 4	55. 9. 44
13		47. 36. 4	46. 5. 54	44. 35. 53	43. 6. 2
14		35. 38. 59	34. 9. 59	32. 41. 5	31. 12. 15
15	α Aquilæ.	79. 27. 34	78. 8. 14	76. 49. 2	75. 29. 59
16		68. 56. 58	67. 38. 54	66. 21. 4	65. 3. 27
17		58. 39. 16			
17	Fomal- haut.	84. 6. 57	82. 47. 4	81. 27. 14	80. 7. 26
18		73. 29. 10	72. 9. 41	70. 50. 17	69. 30. 59
19		62. 56. 45			
19	α Pegasi.	80. 36. 6	79. 8. 51	77. 41. 31	76. 14. 7
20		68. 56. 7	67. 28. 21	66. 0. 33	64. 32. 42
21		57. 12. 56	55. 44. 56	54. 16. 57	52. 49. 0
22		45. 29. 56	44. 2. 23	42. 35. 0	41. 7. 48
23	α Arietis.	33. 56. 27			
23		74. 50. 59	73. 16. 42	71. 42. 12	70. 7. 30
24		62. 10. 50	60. 34. 51	58. 58. 39	57. 22. 14
25		49. 16. 41			
25	Aldeba- ran.	82. 13. 49	80. 35. 49	78. 57. 33	77. 19. 0
26		69. 2. 8	67. 21. 54	65. 41. 23	64. 0. 35
24	The Sun.	121. 6. 42	119. 37. 10	118. 7. 24	116. 37. 23
25		109. 3. 24	107. 31. 47	105. 59. 53	104. 27. 41
26		96. 42. 21	95. 8. 22	93. 34. 5	91. 59. 28
27		84. 1. 41	82. 25. 8	80. 48. 15	79. 11. 2
28		71. 0. 8	69. 20. 57	67. 41. 26	66. 1. 36
29		57. 37. 47	55. 56. 6	54. 14. 9	52. 31. 55
30		43. 56. 55	42. 13. 14	40. 29. 19	38. 45. 12

JUNE 1769.

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Distances of γ 's Center from Stars, and from $\odot$ east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
5	Regulus.	47. 57. 55	46. 7. 16	44. 17. 0	42. 27. 8
6		33. 24. 37	31. 37. 38	29. 51. 12	28. 5. 21
7		19. 27. 14	17. 46. 25	16. 6. 51	14. 28. 56
8	Spica α	59. 9. 10	57. 27. 47	55. 46. 50	54. 6. 19
9		45. 50. 4	44. 12. 4	42. 34. 28	40. 57. 16
10		32. 56. 56	31. 22. 0	29. 47. 26	28. 13. 14
11		20. 27. 31	18. 55. 29	17. 23. 53	15. 52. 46
12	Antares.	53. 38. 36	52. 7. 41	50. 36. 57	49. 6. 25
13		41. 36. 20	40. 6. 47	38. 37. 23	37. 8. 7
14		29. 43. 34			
14	Aquilæ.	84. 46. 2	83. 26. 15	82. 6. 35	80. 47. 1
15		74. 11. 4	72. 52. 17	71. 33. 40	70. 15. 14
16		63. 46. 4	62. 28. 57	61. 12. 6	59. 55. 32
17	Fomal- haut.	78. 47. 41	77. 27. 58	76. 8. 19	74. 48. 43
18		68. 11. 49	66. 52. 47	65. 33. 55	64. 15. 14
19	α Pegasi.	74. 46. 38	73. 19. 6	71. 51. 30	70. 23. 50
20		63. 4. 49	61. 36. 53	60. 8. 55	58. 40. 56
21		51. 21. 4	49. 53. 10	48. 25. 20	46. 57. 35
22		39. 40. 51	38. 14. 10	36. 47. 50	35. 21. 54
23	α Arietis.	68. 32. 35	66. 57. 28	65. 22. 8	63. 46. 36
24		55. 45. 35	54. 8. 42	52. 31. 35	50. 54. 15
25	Aldeba- ran.	75. 40. 11	74. 1. 6	72. 21. 43	70. 42. 4
26		62. 19. 29			
24	The Sun.	115. 7. 7	113. 36. 35	112. 5. 48	110. 34. 44
25		102. 55. 13	101. 22. 27	99. 49. 23	98. 16. 1
26		90. 24. 33	88. 49. 19	87. 13. 46	85. 37. 53
27		77. 33. 30	75. 55. 39	74. 17. 28	72. 38. 58
28		64. 21. 26	62. 40. 59	61. 0. 13	59. 19. 9
29		50. 49. 24	49. 6. 38	47. 23. 38	45. 40. 24

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JUNE 1769.

Distances of γ 's Center from Stars, and from $\odot$ west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1	α Pegasi.	42. 25. 32	44. 9. 7	45. 53. 27	47. 38. 29
2		56. 32. 32	58. 20. 48	60. 9. 26	61. 58. 25
7	The Sun.	43. 44. 32	45. 24. 12	47. 3. 27	48. 42. 15
8		56. 49. 41	58. 25. 52	60. 1. 37	61. 36. 56
9		69. 26. 49	70. 59. 31	72. 31. 49	74. 3. 43
10		81. 37. 13	83. 6. 48	84. 36. 2	86. 4. 54
11		93. 24. 9	94. 51. 4	96. 17. 43	97. 44. 4
12		104. 51. 49	106. 16. 37	107. 41. 12	109. 5. 34
13		116. 4. 33	117. 27. 50	118. 50. 57	120. 13. 56
11	Regulus.	28. 3. 1	29. 35. 24	31. 7. 40	32. 39. 47
12		40. 17. 50	41. 48. 53	43. 19. 46	44. 50. 30
13		52. 21. 48	53. 51. 38	55. 21. 21	56. 50. 56
14		64. 17. 5			
14	Spica μ	10. 23. 12	11. 49. 59	13. 17. 2	14. 44. 31
15		22. 4. 21	23. 32. 33	25. 0. 47	26. 29. 3
16		33. 50. 47	35. 19. 12	36. 47. 38	38. 16. 6
17		45. 39. 7	47. 7. 52	48. 36. 40	50. 5. 32
18		57. 30. 45	59. 0. 2	60. 29. 24	61. 58. 51
19		69. 27. 15	70. 57. 13	72. 27. 17	73. 57. 27
20	Antares.	36. 0. 57	37. 31. 34	39. 2. 20	40. 33. 15
21		48. 10. 6	49. 41. 55	51. 13. 53	52. 46. 1
22		60. 29. 10	62. 2. 20	63. 35. 42	65. 9. 14
23		72. 59. 46			
23	β Capri- corni.	18. 11. 31	19. 46. 6	21. 20. 55	22. 55. 59
24		30. 54. 57	32. 31. 29	34. 8. 17	35. 45. 21
25		43. 54. 37			
25	α Aquilæ.	49. 56. 30	51. 17. 34	52. 39. 33	54. 2. 26
26		61. 9. 4	62. 36. 35	64. 4. 44	65. 33. 31
27		73. 6. 2	74. 38. 7	76. 10. 39	77. 43. 39
28		85. 34. 49			
28	α Pegasi.	37. 50. 50	39. 28. 47	41. 7. 33	42. 47. 7
29		51. 15. 31	52. 59. 1	54. 43. 0	56. 27. 30
30		65. 16. 25	67. 3. 19	68. 50. 30	70. 37. 59
J. 1		79. 38. 58			

J U N E 1769.

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Distances of ☽'s Center from Stars, and from ☉ west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	α Pegasi.	49. 24. 10	51. 10. 28	52. 57. 19	54. 44. 41
2		63. 47. 40			
6	The Sun.		38. 42. 58	40. 23. 55	42. 4. 26
7		50. 20. 37	51. 58. 32	53. 36. 1	55. 13. 4
8		63. 11. 48	64. 46. 12	66. 20. 10	67. 53. 42
9		75. 35. 12	77. 6. 16	78. 36. 58	80. 7. 17
10		87. 33. 26	89. 1. 36	90. 29. 26	91. 56. 57
11		99. 10. 9	100. 35. 57	102. 1. 29	103. 26. 47
12		110. 29. 44	111. 53. 42	113. 17. 30	114. 41. 7
10	Regulus.	21. 52. 35	23. 25. 18	24. 57. 57	26. 30. 32
11		34. 11. 46	35. 43. 34	37. 15. 10	38. 46. 35
12		46. 21. 4	47. 51. 28	49. 21. 43	50. 51. 50
13		58. 20. 24	59. 49. 45	61. 18. 58	62. 48. 5
14	Spica ♀	16. 12. 16	17. 40. 8	19. 8. 7	20. 36. 12
15		27. 57. 21	29. 25. 40	30. 54. 1	32. 22. 23
16		39. 44. 37	41. 13. 10	42. 41. 46	44. 10. 25
17		51. 34. 27	53. 3. 25	54. 32. 27	56. 1. 34
18		63. 28. 22	64. 57. 57	66. 27. 37	67. 57. 23
19		75. 27. 43			
19	Antares.	29. 59. 52	31. 29. 56	33. 0. 8	34. 30. 28
20		42. 4. 19	43. 35. 32	45. 6. 54	46. 38. 26
21		54. 18. 19	55. 50. 46	57. 23. 24	58. 56. 12
22		66. 42. 58	68. 16. 53	69. 50. 59	71. 25. 17
23	β Capri- corni.	24. 31. 17	26. 6. 50	27. 42. 38	29. 18. 40
24		37. 22. 40	39. 0. 15	40. 38. 6	42. 16. 13
25	α Aquilæ.	55. 26. 11	56. 50. 46	58. 16. 7	59. 42. 13
26		67. 2. 56	68. 32. 54	70. 3. 25	71. 34. 27
27		79. 17. 6	80. 50. 57	82. 25. 11	83. 59. 48
28	α Pegasi.	44. 27. 27	46. 8. 31	47. 50. 13	49. 32. 33
29		58. 12. 29	59. 57. 53	61. 43. 41	63. 29. 51
30		72. 25. 44	74. 13. 44	76. 1. 57	77. 50. 22

Configurations of the SATELLITES of JUPITER
at 10 o' th' Clock in the Evening.

1	4.	.2	1.	○	.3
2	.4			○	.2.1 5.
3	.4		1.	○	2♂3
4	.4	2.3.		○	.1.1.
5		3.	2♂1.4	○	
6		.3		○	1. .4 .2
7	1.0 2●		.3	○	.4
8		.2	1.	○	.3 .4
9				○	.2.1 3. .4
10			1.	○	.2.3. 4.
11		2. 3.		○	.1 4.
12		3.	2♂1	○	.4
13		.3		○	1. 4. .2
14			.3 4♂1	○	2.
15	1●	4. 7.		○	.3
16	2.0 4.			○	.1 .3
17	4.		1.	○	.2.3.
18	.4		2.	○	.1 3●
19	.4	3.	.2.1	○	
20		.4 .3		○	1. .2
21		.4 .3.1		○	.1.
22	4.0	2.		○	1. .3
23	1.0 2.0			○	.4 .3
24			1.	○	2. 3. .4
25	2●		2.	○	.1 .4
26		3. .2	1.	○	.4
27		.3		○	1♂2 4.
28			.3.1	○	2. 4.
29		2.		○	1. 3. 4.
30	1.0		.2	○	.4 .3

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D. H. /
			New Moon — 3. 3. 35
			First Quarter — 10. 6. 41
			Full Moon — 18. 10. 28
			Last Quarter — 25. 18. 38
			Other Phenomena.
			D.
1	Sa.	[of V. Mary]	1. ☾ infra cornu bor. ☿
2	Su.	6th Su. after Trin. Vifit.	23 ^h . 19'.
3	M.	[of S. Martin.]	3. ♀ α ☿ diff. Lat. 1°. 5'.
4	Tu.	Cambr. Commenc. Tr.	5. ☾ ξ ♄ 16 ^h . 17'.
5	W.		☾ ♄ 22 ^h . 9'.
6	Th.		6. ☾ π ♄ 4 ^h . 29'.
7	F.	Cambridge Term ends.	☿ Stationary.
8	Sa.		8. ☾ ε ♄ 2 ^h . 23'.
9	Su.	7th Sund. after Trinity.	9. ♃ Stationary.
10	M.	Oxford Act.	13. ☾ ♄ ♄ 16 ^h . 28'.
11	Tu.		15. ☾ θ Ophiuchi 6 ^h . 40'.
12	W.		☾ β Ophiuchi 8 ^h . 33'.
13	Th.		17. ☾ ο ♄ 5 ^h . 50'.
14	F.	[ends.]	☾ π ♄ 8 ^h . 20'.
15	Sa.	Swithin. Oxford Term	21. ♂ α ♄ diff. Lat. 40'.
16	Su.	8th Sund. after Trinity.	22. ☉ enters ♄ at 4 ^h . 48'.
17	M.		25. ☾ η ☿ 1 ^h . 56'.
18	Tu.		29. ☾ infra cornu bor. ☿
19	W.		8 ^h . 10'.
20	Th.	Margaret.	☾ η ♄ 17 ^h . 59'.
21	F.	[Magdalen.]	☾ μ ♄ 21 ^h . 3'.
22	Sa.	Q. of Denm. born. 1751.	30. ☾ ζ ♄ 13 ^h . 1'.
23	Su.	9th Sund. after Trinity.	☿ Stationary.
24	M.		
25	Tu.	St. James.	
26	W.	St. Anne.	
27	Th.		
28	F.		
29	Sa.		
30	Su.	10th Sund. after Trinity.	
31	M.		

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J U L Y 1769.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time Add.	Diff.
		s o ' "	h ' "	o ' "	' "	"
1	Sa.	3. 9. 46. 31	6. 42. 33	23. 6. 30	3.20,0	11,5
2	Su.	3. 10. 43. 44	6. 46. 41	23. 2. 6	3.31,5	11,2
3	M.	3. 11. 40. 58	6. 50. 49	22. 57. 17	3.42,7	10,9
4	Tu.	3. 12. 38. 12	6. 54. 56	22. 52. 6	3.53,6	10,6
5	W.	3. 13. 35. 26	6. 59. 4	22. 46. 28	4. 4,2	10,3
6	Th.	3. 14. 32. 40	7. 3. 10	22. 40. 27	4.14,5	9,8
7	F.	3. 15. 29. 53	7. 7. 17	22. 34. 2	4.24,3	9,4
8	Sa.	3. 16. 27. 7	7. 11. 23	22. 27. 16	4.33,7	9,1
9	Su.	3. 17. 24. 21	7. 15. 28	22. 20. 5	4.42,8	8,7
10	M.	3. 18. 21. 35	7. 19. 34	22. 12. 31	4.51,5	8,2
11	Tu.	3. 19. 18. 48	7. 23. 39	22. 4. 35	4.59,7	7,6
12	W.	3. 20. 16. 1	7. 27. 43	21. 56. 16	5. 7,3	7,2
13	Th.	3. 21. 13. 15	7. 31. 47	21. 47. 34	5.14,5	6,8
14	F.	3. 22. 10. 29	7. 35. 50	21. 38. 29	5.21,3	6,2
15	Sa.	3. 23. 7. 43	7. 39. 53	21. 29. 3	5.27,5	5,6
16	Su.	3. 24. 4. 57	7. 43. 55	21. 19. 15	5.33,1	5,2
17	M.	3. 25. 2. 11	7. 47. 57	21. 9. 5	5.38,3	4,6
18	Tu.	3. 25. 59. 26	7. 51. 58	20. 58. 34	5.42,9	4,1
19	W.	3. 26. 56. 41	7. 55. 58	20. 47. 41	5.47,0	3,5
20	Th.	3. 27. 53. 57	7. 59. 58	20. 36. 27	5.50,5	3,1
21	F.	3. 28. 51. 14	8. 3. 58	20. 24. 53	5.53,6	2,5
22	Sa.	3. 29. 48. 32	8. 7. 57	20. 12. 58	5.56,1	1,9
23	Su.	4. 0. 45. 50	8. 11. 56	20. 0. 42	5.58,0	1,3
24	M.	4. 1. 43. 10	8. 15. 54	19. 48. 7	5.59,3	0,8
25	Tu.	4. 2. 40. 30	8. 19. 51	19. 35. 11	6. 0,1	0,3
26	W.	4. 3. 37. 52	8. 23. 48	19. 21. 56	6. 0,4	0,3
27	Th.	4. 4. 35. 15	8. 27. 44	19. 8. 22	6. 0,1	1,0
28	F.	4. 5. 32. 39	8. 31. 40	18. 54. 28	5.59,1	1,4
29	Sa.	4. 6. 30. 5	8. 35. 35	18. 40. 16	5.57,7	2,0
30	Su.	4. 7. 27. 31	8. 39. 29	18. 25. 45	5.55,7	2,8
31	M.	4. 8. 24. 58	8. 43. 23	18. 10. 56	5.52,9	3,2

J U L Y 1769.

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Days of the Month.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	' "	' "	' "		' " "
1	15. 46. 9	1. 8. 6	2. 23. 0	0. 007248	8. 23. 10
7	15. 47. 0	1. 8. 4	2. 23. 0	0. 007199	8. 22. 51
13	15. 47. 2	1. 8. 0	2. 23. 1	0. 007060	8. 22. 32
19	15. 47. 7	1. 7. 6	2. 23. 2	0. 006857	8. 22. 13
25	15. 48. 2	1. 7. 1	2. 23. 4	0. 006609	8. 21. 54

Eclipses of the SATELLITES of J U P I T E R.

I. Satellite. Emerfions.			II. Satellite. Emerfions.			III. Satellite.		
Days	' "		Days	' "		Days	' "	
1	9 [*] 50. 37		2	10 [*] 44. 50		2	16. 12. 29	I
3	4. 19. 5		6	0. 1. 35		2	17. 56. 23	E
4	22. 47. 33		9	13. 18. 19		9	20. 10. 18	I
6	17. 16. 5		13	2. 35. 9		9	21. 54. 38	E
8	11 [*] 44. 33		16	15. 52. 16		17	0. 8. 28	I
10	6. 13. 3		20	5. 9. 27		17	1. 53. 13	E
12	0. 41. 40		23	18. 26. 48		24	4. 7. 8	I
13	19. 10. 15		27	7. 44. 19		24	5. 52. 18	E
15	13. 38. 52		30	18. 33. 31	I	31	8. 6. 18	I
17	8. 7. 30		30	21. 1. 55	E	31	9 [*] 51. 48	E
19	2. 36. 11					IV. Satellite. Conj.		
20	21. 4. 53					1	3. 33	supr.
22	15. 33. 37					9	12. 33	infr.
24	10 [*] 2. 22					17	21. 34	supr.
26	4. 31. 9					26	6. 34	inir.
27	22. 59. 57							
29	17. 28. 50							
31	11. 57. 42							

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J U L Y 1769.

Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric La- titude.	Declina- tion.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /

M E R C U R Y. inf. δ 19^d. 21^h.

1	8. 3. 43	2. 10 S	4. 2. 53	1. 27 S	18. 7 N	1. 37
7	8. 20. 12	3. 58	4. 3. 56	2. 56	16. 27	1. 15
13	9. 7. 2	5. 28	4. 2. 11	4. 15	15. 33	0. 42
19	9. 25. 1	6. 32	3. 28. 24	4. 55	15. 41	0. 2
25	10. 15. 4	6. 59	3. 24. 35	4. 36	16. 42	23. 18

V E N U S.

1	9. 27. 4	2. 17 S	2. 5. 52	4. 18 S	17. 5 N	21. 33
7	10. 6. 33	2. 40	2. 7. 45	4. 33	17. 9	21. 18
13	10. 16. 3	2. 59	2. 10. 37	4. 37	17. 30	21. 6
19	10. 25. 32	3. 12	2. 14. 17	4. 32	18. 3	20. 57
25	11. 5. 2	3. 21	2. 18. 36	4. 20	18. 40	20. 51

M A R S.

1	5. 4. 0	1. 47 N	4. 13. 57	1. 14 N	17. 51 N	2. 25
7	5. 6. 38	1. 45	4. 17. 40	1. 12	16. 42	2. 15
13	5. 9. 15	1. 44	4. 21. 22	1. 10	15. 30	2. 5
19	5. 11. 53	1. 42	4. 25. 6	1. 8	14. 14	1. 55
25	5. 14. 31	1. 39	4. 28. 52	1. 6	12. 55	1. 46

J U P I T E R.

1	7. 22. 25	0. 57 N	7. 13. 22	1. 4 N	14. 51 S	8. 1
7	7. 22. 53	0. 56	7. 13. 16	1. 2	14. 51	7. 36
13	7. 23. 21	0. 56	7. 13. 15	1. 1	14. 52	7. 12
19	7. 23. 49	0. 55	7. 13. 24	0. 59	14. 56	6. 48
25	7. 24. 17	0. 55	7. 13. 36	0. 58	15. 1	6. 25

S A T U R N. δ 13^d. 11^h.

1	3. 21. 12	0. 1 S	3. 20. 3	0. 1 S	21. 58 N	0. 44
7	3. 21. 25	0. 0	3. 20. 47	0. 0	21. 52	0. 22
13	3. 21. 38	0. 1 N	3. 21. 35	0. 0 N	21. 45	0. 1
19	3. 21. 52	0. 1	3. 22. 22	0. 1	21. 37	23. 38
25	3. 22. 5	0. 2	3. 23. 9	0. 2	21. 29	23. 17

JULY 1769.

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Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midnight.
		S ° ' "	S ° ' "	° ' "	° ' "
1	Sa.	2. 9. 45. 48	2. 17. 13. 31	1. 17. 47 N	0. 37. 13 N
2	Su.	2. 24. 41. 57	3. 2. 10. 6	0. 4. 7 S	0. 45. 14 S
3	M.	3. 9. 36. 46	3. 17. 1. 5	1. 25. 32	2. 4. 7
4	Tu.	3. 24. 21. 59	4. 1. 38. 48	2. 40. 20	3. 13. 32
5	W.	4. 8. 50. 36	4. 15. 56. 45	3. 43. 15	4. 9. 6
6	Th.	4. 22. 56. 51	4. 29. 50. 35	4. 30. 50	4. 48. 16
7	F.	5. 6. 37. 48	5. 13. 18. 28	5. 1. 20	5. 10. 5
8	Sa.	5. 19. 52. 51	5. 26. 20. 58	5. 14. 34	5. 14. 58
9	Su.	6. 2. 43. 25	6. 9. 0. 27	5. 11. 28	5. 4. 17
10	M.	6. 15. 12. 38	6. 21. 20. 24	4. 53. 31	4. 39. 32
11	Tu.	6. 27. 24. 33	7. 3. 25. 26	4. 22. 36	4. 2. 51
12	W.	7. 9. 23. 49	7. 15. 20. 12	3. 40. 38	3. 16. 5
13	Th.	7. 21. 15. 17	7. 27. 9. 31	2. 49. 38	2. 21. 25
14	F.	8. 3. 3. 34	8. 8. 57. 47	1. 51. 41	1. 20. 45
15	Sa.	8. 14. 52. 53	8. 20. 49. 11	0. 48. 54 S	0. 16. 28 S
16	Su.	8. 26. 47. 2	9. 2. 46. 52	0. 16. 17 N	0. 49. 1 N
17	M.	9. 8. 48. 57	9. 14. 53. 41	1. 21. 19	1. 52. 59
18	Tu.	9. 21. 1. 10	9. 27. 11. 37	2. 23. 26	2. 52. 29
19	W.	10. 3. 25. 14	10. 9. 42. 3	3. 19. 43	3. 44. 42
20	Th.	10. 16. 2. 13	10. 22. 25. 44	4. 7. 7	4. 26. 40
21	F.	10. 28. 52. 40	11. 5. 22. 54	4. 42. 59	4. 55. 48
22	Sa.	11. 11. 56. 40	11. 18. 33. 46	5. 4. 50	5. 9. 53
23	Su.	11. 25. 14. 12	0. 1. 57. 55	5. 10. 48	5. 7. 27
24	M.	0. 8. 44. 58	0. 15. 35. 13	4. 59. 46	4. 47. 49
25	Tu.	0. 22. 28. 44	0. 29. 25. 23	4. 31. 35	4. 11. 16
26	W.	1. 6. 25. 7	1. 13. 27. 45	3. 47. 4	3. 19. 16
27	Th.	1. 20. 33. 23	1. 27. 41. 34	2. 48. 15	2. 14. 25
28	F.	2. 4. 52. 19	2. 12. 5. 12	1. 38. 15	1. 0. 20 N
29	Sa.	2. 19. 19. 50	2. 26. 35. 47	0. 21. 23 N	0. 18. 21 S
30	Su.	3. 3. 52. 28	3. 11. 9. 14	0. 57. 11 S	1. 35. 20
31	M.	3. 18. 25. 25	3. 25. 40. 11	2. 11. 53	2. 46. 8

[78]		JULY 1769.					
Days of the Month.	Days of the Week.	D's Age.	D's Pafs age over Merid.	D's Right Afcen. at Noon.	D's Right Afce. at Midn.	D's Declination at Noon.	D's Declination at Midn.
			h /	o /	o /	o /	o /
1	Sa.	29	22. 47	67. 54	76. 3	23. 13 N	23. 28 N
2	Su.	30	23. 50	84. 14	92. 21	23. 18	22. 42
3	M.	1	♂	100. 21	108. 10	21. 42	20. 20
4	Tu.	2	0. 50	115. 47	123. 9	18. 38	16. 40
5	W.	3	1. 46	130. 16	137. 9	14. 29	12. 7
6	Th.	4	2. 38	143. 48	150. 15	9. 37	7. 2
7	F.	5	3. 26	156. 31	162. 38	4. 25 N	1. 48 N
8	Sa.	6	4. 11	168. 38	174. 34	0. 48 S	3. 22 S
9	Su.	7	4. 55	180. 25	186. 15	5. 51	8. 14
10	M.	8	5. 39	192. 5	197. 56	10. 30	12. 39
11	Tu.	9	6. 23	203. 49	209. 45	14. 39	16. 28
12	W.	10	7. 8	215. 46	221. 51	18. 7	19. 34
13	Th.	11	7. 56	228. 2	234. 17	20. 49	21. 50
14	F.	12	8. 44	240. 37	247. 2	22. 37	23. 9
15	Sa.	13	9. 33	253. 29	260. 0	23. 25	23. 26
16	Su.	14	10. 23	266. 30	273. 1	23. 10	22. 37
17	M.	15	11. 12	279. 30	285. 57	21. 49	20. 46
18	Tu.	16	12. 1	292. 20	298. 40	19. 28	17. 57
19	W.	17	12. 48	304. 55	311. 7	16. 11	14. 13
20	Th.	18	13. 34	317. 15	323. 20	12. 7	9. 51
21	F.	19	14. 20	329. 22	335. 24	7. 27	4. 58 S
22	Sa.	20	15. 6	341. 25	347. 28	2. 23 S	0. 13 N
23	Su.	21	15. 53	353. 34	359. 45	2. 52 N	5. 29
24	M.	22	16. 42	6. 3	12. 28	8. 4	10. 34
25	Tu.	23	17. 34	19. 3	25. 49	12. 57	15. 12
26	W.	24	18. 29	32. 47	39. 57	17. 15	19. 4
27	Th.	25	19. 28	47. 19	54. 53	20. 37	21. 51
28	F.	26	20. 29	62. 36	70. 27	22. 45	23. 16
29	Sa.	27	21. 31	78. 22	86. 18	23. 24	23. 8
30	Su.	28	22. 32	94. 12	101. 59	22. 28	21. 25
31	M.	29	23. 32	109. 39	117. 7	20. 1	18. 19

J U L Y 1769.

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Days of the Month.	Days of the Week.	Semidr. Δ at Noon.	Semidr. Δ at Mid-night.	Hor. Par. Δ at Noon.	Hor. Par. Δ at Midnight.	Proport. Lo. ear. at Noon.	Proport. Lo. ear. at Midn.
1	Sa.	16. 36	16. 38	60. 56	61. 1	4704	4698
2	Su.	16. 38	16. 36	61. 1	60. 57	4698	4703
3	M.	16. 34	16. 31	60. 48	60. 36	4714	4728
4	Tu.	16. 26	16. 21	60. 19	59. 59	4748	4772
5	W.	16. 15	16. 8	59. 37	59. 11	4799	4831
6	Th.	16. 0	15. 53	58. 45	58. 18	4863	4896
7	F.	15. 45	15. 38	57. 50	57. 22	4931	4966
8	Sa.	15. 31	15. 24	56. 55	56. 30	5000	5032
9	Su.	15. 17	15. 11	56. 6	55. 44	5063	5091
10	M.	15. 6	15. 1	55. 25	55. 7	5117	5140
11	Tu.	14. 57	14. 54	54. 52	54. 40	5159	5175
12	W.	14. 51	14. 49	54. 30	54. 22	5189	5199
13	Th.	14. 48	14. 47	54. 18	54. 15	5205	5209
14	F.	14. 47	14. 47	54. 14	54. 16	5210	5207
15	Sa.	14. 48	14. 50	54. 19	54. 24	5203	5197
16	Su.	14. 51	14. 54	54. 31	54. 39	5187	5177
17	M.	14. 56	14. 59	54. 49	55. 0	5163	5149
18	Tu.	15. 2	15. 6	55. 11	55. 24	5134	5118
19	W.	15. 9	15. 13	55. 37	55. 51	5100	5082
20	Th.	15. 17	15. 21	56. 4	56. 19	5065	5046
21	F.	15. 25	15. 29	56. 34	56. 49	5027	5008
22	Sa.	15. 33	15. 38	57. 4	57. 21	4989	4967
23	Su.	15. 42	15. 46	57. 36	57. 51	4949	4930
24	M.	15. 50	15. 54	58. 6	58. 23	4911	4890
25	Tu.	15. 59	16. 3	58. 39	58. 54	4870	4852
26	W.	16. 7	16. 11	59. 9	59. 23	4833	4816
27	Th.	16. 14	16. 18	59. 36	59. 48	4800	4786
28	F.	16. 20	16. 23	59. 58	60. 6	4773	4764
29	Sa.	16. 24	16. 25	60. 12	60. 15	4757	4753
30	Su.	16. 25	16. 24	60. 15	60. 12	4753	4757
31	M.	16. 23	16. 20	60. 6	59. 57	4764	4755

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J U L Y 1769.

		Distances of γ 's Center from Stars, and from $\odot$ east of her.											
Days.	Stars Names.	Noon.			3 Hours.			6 Hours.			9 Hours.		
		°	'	"	°	'	"	°	'	"	°	'	"
5	Spica α	71. 42. 6	69. 55. 9	68. 8. 37	66. 22. 27								
6		57. 37. 50	55. 54. 11	54. 10. 57	52. 28. 9								
7		44. 0. 40	42. 20. 29	40. 40. 44	39. 1. 24								
8		30. 51. 4	29. 14. 18	27. 37. 57	26. 2. 2								
9	Antares.	18. 8. 49	16. 35. 35	15. 2. 55	13. 30. 52								
10		51. 9. 35	49. 37. 45	48. 6. 10	46. 34. 50								
11		39. 1. 24	37. 31. 21	36. 1. 29	34. 31. 50								
12	α Aquilæ.	82. 22. 45	81. 2. 52	79. 43. 8	78. 23. 34								
13		71. 48. 17	70. 29. 47	69. 11. 29	67. 53. 24								
14		61. 26. 26											
14	Fomal- haut.	87. 3. 31	85. 43. 43	84. 23. 54	83. 4. 4								
15		76. 25. 3	75. 5. 19	73. 45. 39	72. 26. 3								
16		65. 49. 17											
16	α Pegasi.	83. 46. 54	82. 19. 33	80. 52. 6	79. 24. 33								
17		72. 5. 24	70. 37. 15	69. 9. 1	67. 40. 41								
18		60. 18. 2	58. 49. 20	57. 20. 35	55. 51. 49								
19		48. 27. 57	46. 59. 19	45. 30. 47	44. 2. 24								
20		36. 43. 44	35. 17. 2	33. 50. 51	32. 25. 16								
21	α Arietis.	65. 9. 4	63. 32. 45	61. 56. 16	60. 19. 37								
22		52. 13. 38	50. 35. 57	48. 58. 6	47. 20. 6								
23	Aldeba- ran.	72. 1. 23	70. 22. 0	68. 42. 26	67. 2. 40								
24		58. 41. 1	57. 0. 9	55. 19. 7	53. 37. 55								
25		45. 9. 31	43. 27. 25	41. 45. 12	40. 2. 53								
26		31. 30. 37											
23	The Sun.				120. 42. 24								
24		112. 52. 40	111. 18. 5	109. 43. 17	108. 8. 15								
25		100. 9. 51	98. 33. 31	96. 56. 58	95. 20. 11								
26		87. 13. 7	85. 35. 5	83. 56. 51	82. 18. 25								
27		74. 3. 3	72. 23. 25	70. 43. 37	69. 3. 38								
28		60. 41. 7	59. 0. 10	57. 19. 5	55. 37. 53								
29		47. 10. 18	45. 28. 34	43. 46. 46	42. 4. 56								

J U L Y 1769.

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Distances of γ 's Center from Stars, and from $\odot$ east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
4	Spica α	78. 53. 38	77. 5. 11	75. 17. 7	73. 29. 25
5		64. 36. 42	62. 51. 21	61. 6. 26	59. 21. 55
6		50. 45. 47	49. 3. 51	47. 22. 22	45. 41. 18
7		37. 22. 30	35. 44. 0	34. 5. 56	32. 28. 17
8		24. 26. 32	22. 51. 26	21. 16. 46	19. 42. 34
9	Antares.	11. 59. 30			
9		57. 19. 45	55. 46. 46	54. 14. 5	52. 41. 42
10		45. 3. 44	43. 32. 50	42. 2. 8	40. 31. 40
11	α Aquilæ.	33. 2. 22			
11		87. 43. 48	86. 23. 19	85. 2. 59	83. 42. 47
12		77. 4. 10	75. 44. 56	74. 25. 52	73. 6. 59
13	Fomal- haut.	66. 35. 32	65. 17. 54	64. 0. 30	62. 43. 21
14		81. 44. 14	80. 24. 25	79. 4. 36	77. 44. 49
15		71. 6. 30	69. 47. 3	68. 27. 41	67. 8. 26
16	α Pegasi.	77. 56. 55	76. 29. 11	75. 1. 22	73. 33. 26
17		66. 12. 17	64. 43. 49	63. 15. 17	61. 46. 41
18		54. 23. 2	52. 54. 14	51. 25. 25	49. 56. 39
19		42. 34. 11	41. 6. 9	39. 38. 21	38. 10. 51
20		31. 0. 22			
20	α Arietis.	71. 32. 39	69. 57. 1	68. 21. 12	66. 45. 13
21		58. 42. 47	57. 5. 45	55. 28. 32	53. 51. 10
22		45. 41. 57			
22	Aldeba- ran.	78. 37. 3	76. 58. 25	74. 19. 36	73. 40. 35
23		65. 22. 42	63. 42. 33	62. 2. 13	60. 21. 42
24		51. 56. 33	50. 15. 1	48. 33. 20	46. 51. 30
25		38. 20. 30	36. 38. 4	34. 55. 36	33. 13. 7
23	The Sun.	119. 8. 53	117. 35. 9	116. 1. 13	114. 27. 3
24		106. 33. 1	104. 57. 33	103. 21. 52	101. 45. 58
25		93. 43. 12	92. 6. 0	90. 28. 35	88. 50. 57
26		80. 39. 46	79. 0. 53	77. 21. 48	75. 42. 31
27		67. 23. 29	65. 43. 8	64. 2. 37	62. 21. 56
28		53. 56. 33	52. 15. 7	50. 33. 35	48. 51. 58
29		40. 23. 5	38. 41. 14		

D. S.A.E.	Distances of γ 's Center from Stars, and from $\odot$ west of her.				
	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1	α Arietis.	36. 9. 45	38. 0. 20	39. 51. 7	41. 42. 7
2		50. 59. 8			
6	The Sun.	38. 37. 36	40. 14. 12	41. 50. 22	43. 26. 7
7		51. 18. 32	52. 51. 44	54. 24. 32	55. 56. 56
8		63. 32. 56	65. 2. 56	66. 32. 32	68. 1. 46
9		75. 22. 46	76. 49. 57	78. 16. 48	79. 43. 21
10		86. 51. 44	88. 16. 35	89. 41. 11	91. 5. 33
11		98. 4. 19	99. 27. 28	100. 50. 27	102. 13. 16
12		109. 5. 21	110. 27. 24	111. 49. 21	113. 11. 13
13		119. 59. 37			
10	Regulus.	48. 49. 12	50. 20. 34	51. 51. 46	53. 22. 46
11		60. 54. 57	62. 24. 50	63. 54. 34	65. 24. 9
12		72. 50. 13			
12	Spica π	18. 48. 44	20. 17. 10	21. 45. 36	23. 14. 2
13		30. 36. 15	32. 4. 40	33. 33. 6	35. 1. 33
14		42. 24. 7	43. 52. 42	45. 21. 21	46. 50. 2
15		54. 14. 37	55. 43. 47	57. 13. 3	58. 42. 24
16		66. 10. 43	67. 40. 44	69. 10. 53	70. 41. 10
17		78. 14. 38			
17	Antares.	32. 46. 4	34. 16. 56	35. 47. 59	37. 19. 12
18		44. 57. 56	46. 30. 14	48. 2. 42	49. 35. 22
19		57. 21. 30	58. 55. 17	60. 29. 15	62. 3. 24
20		69. 57. 4			
20	β Capri- corni.	15. 9. 39	16. 44. 42	18. 20. 0	19. 55. 32
21		27. 56. 37	29. 33. 27	31. 10. 29	32. 47. 44
22		40. 57. 13			
22	α Aquilæ.	47. 35. 59	48. 55. 24	50. 15. 49	51. 37. 11
23		58. 36. 17	60. 2. 15	61. 28. 48	62. 55. 57
24		70. 19. 36	71. 49. 43	73. 20. 13	74. 51. 6
25	α Pegasi.	34. 43. 29	36. 17. 24	37. 52. 14	39. 27. 55
26		47. 36. 52	49. 16. 23	50. 56. 23	52. 36. 51
27		61. 5. 26	62. 48. 12	64. 31. 16	66. 14. 38
28		74. 55. 29	76. 40. 20	78. 25. 23	80. 10. 36
29	α Arietis.	45. 39. 33	47. 27. 43	49. 16. 2	51. 4. 27
30		60. 7. 51	61. 56. 40	63. 45. 29	65. 34. 18
31		74. 37. 51			

JULY 1769.

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Distances of γ 's Center from Stars, and from $\odot$ west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	α Arietis.	43. 33. 18	45. 24. 38	47. 16. 4	49. 7. 34
6		45. 1. 27	46. 36. 21	48. 10. 50	49. 44. 54
7		57. 28. 55	59. 0. 31	60. 31. 43	62. 2. 31
8		69. 30. 39	70. 59. 12	72. 27. 24	73. 55. 15
9	The Sun.	81. 9. 35	82. 35. 32	84. 1. 13	85. 26. 37
10		92. 29. 42	93. 53. 39	95. 17. 24	96. 40. 58
11		103. 35. 56	104. 58. 28	106. 20. 53	107. 43. 11
12		114. 33. 0	115. 54. 44	117. 16. 24	118. 38. 1
10	Regulus.	54. 53. 34	56. 24. 11	57. 54. 37	59. 24. 52
11		66. 53. 36	68. 22. 55	69. 52. 7	71. 21. 13
12		24. 42. 28	26. 10. 55	27. 39. 21	29. 7. 48
13		36. 30. 0	37. 58. 29	39. 27. 0	40. 55. 33
14	Spica μ	48. 18. 47	49. 47. 37	51. 16. 32	52. 45. 32
15		60. 11. 51	61. 41. 24	63. 11. 3	64. 40. 50
16		72. 11. 35	73. 42. 9	75. 12. 51	76. 43. 41
17		38. 50. 35	40. 22. 9	41. 53. 54	43. 25. 50
18	Antares.	51. 8. 13	52. 41. 16	54. 14. 29	55. 47. 54
19		63. 37. 45	65. 12. 17	66. 47. 1	68. 21. 57
20	β Capri-	21. 31. 18	23. 7. 18	24. 43. 31	26. 19. 58
21	corni.	34. 25. 12	36. 2. 52	37. 40. 46	39. 18. 53
22		52. 59. 25	54. 22. 29	55. 46. 21	57. 10. 58
23	α Aquilæ.	64. 23. 41	65. 51. 57	67. 20. 41	68. 49. 55
24		76. 22. 20			
24		28. 39. 30	30. 8. 28	31. 38. 53	33. 10. 36
25		41. 4. 24	42. 41. 36	44. 19. 26	45. 57. 52
26	α Pegasi.	54. 17. 46	55. 59. 7	57. 40. 52	59. 22. 59
27		67. 58. 17	69. 42. 13	71. 26. 24	73. 10. 50
28		81. 55. 59			
28		38. 28. 41	40. 10. 5	42. 3. 43	43. 51. 33
29	α Arietis.	52. 53. 0	54. 41. 38	56. 30. 19	58. 19. 3
30		67. 23. 7	69. 11. 53	71. 0. 36	72. 49. 16

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JULY 1769.

Configurations of the SATELLITES of JUPITER
at 9 o'clock in the Evening.

1	1 ●		4.	○	2.	3.	
2	2 ●		4.	○	3.	1.	
3		4.	3.	2.	1.	○	
4	4.		3.	○	2.	1.	
5	4.		3.	1.	○	2.	
6	4.		2.	○	3.	1.	
7		4.	2.	1.	○	3.	
8	1 ●		4.	○	2.	3.	
9	2 ●			○	1	4.	3.
10		2.	3.	1.	○	4.	
11		3.		○	2.	1.	4.
12		3.	1.	○	2.		4.
13	3.0		2.	○	1.		4.
14		2.	1.	○	3.		4.
15				○	1.	2.	3.
16	1.0			○	2.	3.	4.
17	4 ●		2.	3.	1.	○	
18		3.	4.	○	2.	1.	
19		4.	3.	1.	○	2.	
20	4.		2.	○	1.		3.0
21		2.	1.	○	3.		
22	4.			○	1.	2.	3.
23	4.		1.	○	2.	3.	
24	1 ●	4.	2.	3.	○		
25	2.0	3.	4.	○	1.		
26		3.	1.	○	4.	2.	
27			2.	3.	○	1.	4.
28		2.	1.	○	3.		4.
29				○	1.	2.	3.
30			1.	○	2.	3.	4.
31	1 ● 3 ●		2.	○			4.

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D. H. /
			New Moon— 1. 11. 40
			First Quarter — 8. 22. 56
			Full Moon — 16. 23. 11
			Last Quarter — 24. 0. 13
			New Moon — 30. 21. 35
1	Tu.	Lammas-Day.	
2	W.		
3	Th.		
4	F.		
5	Sa.	[Transf. of our Lord,	
6	Su.	11th Sund. after Trinity,	
7	M.	Name of Jesus,	Other Phenomena.
8	Tu.		D.
9	W.		4. ☾ ♄ 11 ^h . 33'.
10	Th.	St. Lawrence,	9. ☾ ♄ 23 ^h . 56'.
11	F.	Pr. of Brunswick born.	11. ♀ ♃ II diff. Lat. 2'.
12	Sa.	Pr. of Wales born 1762.	☾ ☿ Ophiuchi 14 ^h . 11'.
13	Su.	12th Sund. after Trinity.	☾ ♄ Ophiuchi 16 ^h . 4'.
14	M.		13. ☾ ♄ 13 ^h . 25'.
15	Tu.		☾ ♄ 15 ^h . 54'.
16	W.	Prince Frederick born.	14. ☿ ♄ diff. Lat. 21'.
17	Th.		♀ ♄ diff. Lat. 10'.
18	F.		19. ♀ ♄ II diff. Lat. 42'.
19	Sa.		21. ☾ ♄ 7 ^h . 24'.
20	Su.	13th Sund. after Trinity.	22. ☉ enters ♍ at 11 ^h . 5'.
21	M.	Pr. Will. Henry born.	25. ☾ infra cornu bor. ☿
22	Tu.		14 ^h . 54'.
23	W.		26. ☾ ♄ II oh. 58'.
24	Th.	St. Bartholomew.	☾ ♄ II 4 ^h . 7'.
25	F.		☾ ♄ II 20 ^h . 33'.
26	Sa.		27. ☿ ☾ ♄ 9 ^h . 57'. diff.
27	Su.	14th Sund. after Trinity.	Lat. 13'.
28	M.	S. Augustine.	
29	Tu.	Beheading of St. John	
30	W.	[Baptist.	
31	Th.		

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AUGUST 1769.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time. Add.	Diff.
		s ° / //	n / //	° / //	/ //	//
1	Tu.	4. 9. 22. 27	8. 47. 16	7. 55. 49	5. 49. 7	
2	W.	4. 10. 19. 56	8. 51. 9	17. 40. 24	5. 45. 8	3,9
3	Th.	4. 11. 17. 27	8. 55. 1	17. 24. 42	5. 41. 4	4,4
4	F.	4. 12. 14. 59	8. 58. 53	17. 8. 43	5. 36. 4	5,0
5	Sa.	4. 13. 12. 31	9. 2. 44	16. 52. 28	5. 30. 8	5,6
						6,3
6	Su.	4. 14. 10. 5	9. 6. 34	16. 35. 56	5. 24. 5	6,9
7	M.	4. 15. 7. 39	9. 10. 24	16. 19. 8	5. 17. 6	7,5
8	Tu.	4. 16. 5. 14	9. 14. 13	16. 2. 4	5. 10. 1	8,0
9	W.	4. 17. 2. 50	9. 18. 1	15. 44. 45	5. 2. 1	8,7
10	Th.	4. 18. 0. 27	9. 21. 49	15. 27. 10	4. 53. 4	9,4
						9,7
11	F.	4. 18. 58. 4	9. 25. 36	15. 9. 22	4. 44. 0	10,4
12	Sa.	4. 19. 55. 43	9. 29. 23	14. 51. 18	4. 34. 3	11,1
13	Su.	4. 20. 53. 22	9. 33. 9	14. 33. 0	4. 23. 9	11,4
14	M.	4. 21. 51. 2	9. 36. 55	14. 14. 29	4. 12. 8	12,0
15	Tu.	4. 22. 48. 44	9. 40. 40	13. 55. 44	4. 1. 4	12,7
						13,1
16	W.	4. 23. 46. 27	9. 44. 24	13. 36. 46	3. 49. 4	13,6
17	Th.	4. 24. 44. 11	9. 48. 8	13. 17. 34	3. 36. 7	13,9
18	F.	4. 25. 41. 56	9. 51. 51	12. 58. 10	3. 23. 6	14,4
19	Sa.	4. 26. 39. 43	9. 55. 34	12. 38. 34	3. 10. 0	15,0
20	Su.	4. 27. 37. 32	9. 59. 17	12. 18. 45	2. 56. 1	15,3
						15,5
21	M.	4. 28. 35. 23	10. 2. 59	11. 58. 45	2. 41. 7	16,1
22	Tu.	4. 29. 33. 15	10. 6. 41	11. 38. 33	2. 26. 7	16,5
23	W.	5. 0. 31. 9	10. 10. 22	11. 18. 10	2. 11. 4	16,9
24	Th.	5. 1. 29. 5	10. 14. 3	10. 57. 36	1. 55. 8	17,1
25	F.	5. 2. 27. 3	10. 17. 43	10. 36. 51	1. 39. 7	17,6
						17,9
26	Sa.	5. 3. 25. 3	10. 21. 23	10. 15. 57	1. 23. 2	18,1
27	Su.	5. 4. 23. 4	10. 25. 3	9. 54. 52	1. 6. 3	18,5
28	M.	5. 5. 21. 8	10. 28. 42	9. 33. 38	0. 49. 2	
29	Tu.	5. 6. 19. 14	10. 32. 21	9. 12. 14	0. 31. 6	
30	W.	5. 7. 17. 22	10. 36. 0	8. 50. 41	0. 13. 7	
31	Th.	5. 8. 15. 31	10. 39. 38	8. 29. 0	Sub. 4. 4	

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Days of the Month.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	' "	' "	' "		' " '
1	15. 49, 1	1. 6, 5	2. 23, 6	0. 006233	8. 21. 32
7	15. 50, 0	1. 6, 0	2. 24, 0	0. 005819	8. 21. 13
13	15. 51, 0	1. 5, 5	2. 24, 3	0. 005332	8. 20. 54
19	15. 52, 2	1. 5, 1	2. 24, 6	0. 004805	8. 20. 35
25	15. 53, 4	1. 4, 7	2. 25, 0	0. 004248	8. 20. 16

Eclipses of the SATELLITES of J U P I T E R.

I. Satellite. Emerfions.			II. Satellite.			III. Satellite.		
Days	h	' "	Days	h	' "	Days	h	' "
2	6.	26. 37	3	7.	51. 16 I	7	12.	6. 2 I
4	0.	55. 35	3	10.	19. 42 E	7	13.	52. 0 E
5	19.	24. 34	6	21.	9. 7 I	14	16.	6. 10 I
7	13.	53. 30	6	23.	37. 38 E	14	17.	52. 46 E
9	8*	22. 34	10	10.	27. 13 I	21	20.	6. 47 I
11	2.	51. 40	10	12.	55. 46 E	21	21.	54. 1 E
12	21.	20. 43	13	23.	45. 28 I	29	0.	7. 44 I
14	15.	49. 53	14	2.	14. 4 E	29	1.	55. 34 E
16	10.	19. 1	17	13.	3. 54 I	IV. Satellite. Conj.		
18	4.	48. 11	17	15.	32. 34 E			
19	23.	17. 21	21	2.	22. 23 I	3	15.	35 fupr.
21	17.	46. 36	21	4.	51. 6 E	12	0.	35 infr.
23	12.	15. 49	24	15.	41. 9 I	20	9.	36 fupr.
25	6.	45. 6	24	18.	9. 54 E	28	18.	36 infr.
27	1.	14. 16	28	4.	59. 58 I			
28	19.	43. 35	28	7*	28. 45 E			
30	14.	12. 52	31	18.	18. 54 I			
			31	20.	47. 45 E			

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Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric Lati- tude.	Decli- nation.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /

MERCURY. greatest Elong. 8^d.

1	11. 12. 36	6. 15 S	3. 23. 19	3. 10 S	18. 20 N	22. 48
7	0. 11. 13	3. 59	3. 26. 21	1. 33	19. 23	22. 42
13	1. 15. 7	0. 5	4. 3. 13	0. 1	19. 27	22. 51
19	2. 22. 36	4. 12 N	4. 13. 6	1. 6 N	17. 57	23. 12
25	3. 29. 8	6. 41	4. 24. 35	1. 40	14. 55	23. 36

VENUS. greatest Elong. 13^d.

1	11. 16. 9	3. 23 S	2. 24. 16	4. 0 S	19. 21 N	20. 48
7	11. 25. 41	3. 20	2. 29. 33	3. 39	19. 49	20. 48
13	0. 5. 13	3. 10	3. 5. 10	3. 15	20. 7	20. 49
19	0. 14. 47	2. 56	3. 11. 2	2. 49	20. 12	20. 51
25	0. 24. 22	2. 36	3. 17. 8	2. 22	20. 1	20. 55

MARS.

1	5. 17. 35	1. 36 N	5. 3. 15	1. 3 N	11. 18 N	1. 35
7	5. 20. 14	1. 34	5. 7. 2	1. 1	9. 53	1. 26
13	5. 22. 53	1. 31	5. 10. 50	0. 59	8. 25	1. 18
19	5. 25. 33	1. 28	5. 14. 39	0. 57	6. 55	1. 9
25	5. 28. 13	1. 25	5. 18. 29	0. 54	5. 23	1. 1

JUPITER. ☐ 6^d. 5^h.

1	7. 24. 49	0. 55 N	7. 13. 59	0. 57 N	15. 9 S	5. 59
7	7. 25. 17	0. 54	7. 14. 26	0. 55	15. 19	5. 37
13	7. 25. 45	0. 54	7. 14. 57	0. 54	15. 29	5. 17
19	7. 26. 13	0. 53	7. 15. 35	0. 52	15. 42	4. 57
25	7. 26. 41	0. 53	7. 16. 17	0. 51	15. 55	4. 38

SATURN.

1	3. 22. 21	0. 2 N	3. 24. 31	0. 2 N	21. 22 N	22. 54
7	3. 22. 35	0. 3	3. 24. 49	0. 3	21. 15	22. 34
13	3. 22. 48	0. 4	3. 25. 33	0. 3	21. 7	22. 14
19	3. 23. 1	0. 4	3. 26. 14	0. 4	21. 0	21. 55
25	3. 23. 14	0. 5	3. 26. 57	0. 4	20. 52	21. 36

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Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S ° ' "	S ° ' "	° ' "	° ' "
1	Tu.	4 2. 52. 48	4. 10. 2. 31	3. 17. 30 S	3. 45. 30 S
2	W.	4 17. 8. 37	4. 24. 10. 23	4 9. 44	4. 29. 53
3	Th.	5. 1. 7. 12	5. 7. 58. 50	4. 45. 47	4. 57. 20
4	F.	5. 14. 44. 50	5. 21. 24. 55	5. 4. 30	5. 7. 26
5	Sa.	5. 27. 59. 10	6. 4. 27. 32	5. 6. 12	5. 1. 5
6	Su.	6. 10. 50. 20	6. 17. 7. 48	4 52. 12	4. 39. 55
7	M.	6. 23. 20. 24	6. 29. 28. 29	4. 24. 28	4. 6. 6
8	Tu.	7. 5. 32. 48	7. 11. 33. 43	3. 45. 10	3. 21. 56
9	W.	7. 17. 32. 2	7. 23. 28. 14	2. 56. 35	2. 29. 27
10	Th.	7. 29. 33. 9	8. 5. 17. 19	2. 0. 55	1. 31. 5
11	F.	8. 11. 11. 33	8. 17. 6. 16	1. 0. 17 S	0. 28. 48 S
12	Sa.	8. 23. 2. 18	8. 29. 0. 5	0. 3. 3 N	0. 34. 57 N
13	Su.	9. 5. 0. 14	9. 11. 3. 8	1. 6. 45	1. 37. 56
14	M.	9. 17. 9. 22	9. 23. 19. 7	2. 8. 14	2. 37. 20
15	Tu.	9. 29. 32. 48	10. 5. 50. 31	3. 4. 46	3. 30. 14
16	W.	10. 12. 12. 24	10. 18. 38. 33	3. 53. 19	4. 13. 42
17	Th.	10. 25. 8. 58	11. 1. 43. 26	4. 30. 58	4. 44. 50
18	F.	11. 8. 21. 47	11. 15. 3. 51	4. 54. 58	5. 1. 8
19	Sa.	11. 21. 49. 14	11. 28. 37. 46	5. 3. 13	5. 0. 58
20	Su.	0. 5. 29. 0	0. 12. 22. 41	4. 54. 22	4. 43. 30
21	M.	0. 19. 18. 21	0. 26. 15. 51	4. 28. 22	4. 9. 13
22	Tu.	1. 3. 14. 51	1. 10. 15. 8	3. 46. 17	3. 19. 50
23	W.	1. 17. 16. 28	1. 24. 18. 44	2. 50. 19	2. 18. 3
24	Th.	2. 1. 21. 41	2. 8. 25. 25	1. 43. 43	1. 7. 44 N
25	F.	2. 15. 29. 38	2. 22. 34. 18	0. 30. 36 N	0. 6. 59 S
26	Sa.	2. 29. 39. 12	3. 6. 44. 1	0. 44. 27 S	1. 21. 14
27	Su.	3. 13. 48. 36	3. 20. 52. 48	1. 56. 44	2. 30. 18
28	M.	3. 27. 56. 8	4. 4. 58. 10	3. 1. 30	3. 29. 48
29	Tu.	4. 11. 58. 24	4. 18. 56. 22	3. 54. 42	4. 15. 59
30	W.	4. 25. 51. 34	5. 2. 43. 35	4. 33. 22	4. 46. 30
31	Th.	5. 9. 31. 45	5. 16. 15. 52	4. 55. 20	5. 0. 13

N

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Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declinat. at Noon.	D's Declin. at Midn.
			h /	o /	o /	o /	o /
1	Tu.	1	♂	124. 23	131. 27	16. 20 N	14. 8 N
2	W.	2	0. 23	138. 19	144. 59	11. 45	9. 14
3	Th.	3	1. 13	151. 28	157. 48	6. 38	3. 59 N
4	F.	4	2. 1	164. 0	170. 6	1. 20 N	1. 18 S
5	Sa.	5	2. 47	176. 7	182. 5	3. 53 S	6. 23
6	Su.	6	3. 32	188. 2	193. 58	8. 46	11. 3
7	M.	7	4. 17	199. 55	205. 54	13. 11	15. 8
8	Tu.	8	5. 3	211. 56	218. 1	16. 55	18. 31
9	W.	9	5. 50	224. 11	230. 24	19. 54	21. 5
10	Th.	10	6. 38	236. 42	243. 4	22. 1	22. 42
11	F.	11	7. 27	249. 29	255. 56	23. 9	23. 19
12	Sa.	12	8. 17	262. 25	268. 55	23. 14	22. 53
13	Su.	13	9. 7	275. 24	281. 53	22. 16	21. 23
14	M.	14	9. 56	288. 19	294. 42	20. 15	18. 52
15	Tu.	15	10. 44	301. 2	307. 19	17. 15	15. 26
16	W.	16	11. 32	313. 33	319. 45	13. 25	11. 14
17	Th.	17	12. 19	325. 54	332. 2	8. 54	6. 26
18	F.	18	13. 6	338. 10	344. 19	3. 53 S	1. 16 S
19	Sa.	19	13. 53	350. 30	356. 45	1. 24 N	4. 3 N
20	Su.	20	14. 41	3. 4	9. 31	6. 41	9. 14
21	M.	21	15. 33	16. 5	22. 48	11. 42	14. 1
22	Tu.	22	16. 29	29. 41	36. 44	16. 9	18. 4
23	W.	23	17. 26	43. 57	51. 20	19. 44	21. 6
24	Th.	24	18. 26	58. 51	66. 29	22. 9	22. 51
25	F.	25	19. 26	74. 11	81. 55	23. 11	23. 8
26	Sa.	26	20. 26	89. 37	97. 15	22. 44	21. 57
27	Su.	27	21. 23	104. 47	112. 11	20. 49	19. 22
28	M.	28	22. 17	119. 24	126. 27	17. 38	15. 39
29	Tu.	29	23. 8	133. 19	140. 2	13. 28	11. 6
30	W.	1	23. 57	146. 35	152. 58	8. 37	6. 3
31	Th.	2	— — —	159. 15	165. 25	3. 26	0. 49

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Days of the Month.	Days of the Week.	Semidr. Δ at Noon.	Semidr. Δ at Mid-night.	Hor. Par. Δ at Noon.	Hor. Par. Δ at Midnight.	Gr. at Noon.	Proport. Lo. Gr. at Midn.
		Δ Δ	Δ Δ	Δ Δ	Δ Δ	Δ Δ	Δ Δ
1	Tu.	16. 17	16. 12	59. 45	59. 29	4789	4809
2	W.	16. 8	16. 2	59. 11	58. 51	4831	4855
3	Th.	15. 56	15. 50	58. 29	58. 6	4882	4911
4	F.	15. 43	15. 36	57. 41	57. 17	4942	4972
5	Sa.	15. 30	15. 24	56. 52	56. 29	5004	5033
6	Su.	15. 17	15. 12	6. 7	55. 46	5062	5089
7	M.	15. 7	15. 2	55. 27	55. 11	5113	5134
8	Tu.	14. 58	14. 55	54. 56	54. 44	5154	5170
9	W.	14. 52	14. 50	54. 35	54. 28	5182	5191
10	Th.	14. 49	14. 49	54. 24	54. 22	5197	5199
11	F.	14. 49	14. 50	54. 23	54. 26	5198	5194
12	Sa.	14. 51	14. 54	54. 32	54. 39	5186	5177
13	Su.	14. 56	14. 59	54. 49	55. 1	5163	5148
14	M.	15. 3	15. 7	55. 14	55. 28	5131	5112
15	Tu.	15. 11	15. 15	55. 43	55. 59	5093	5072
16	W.	15. 20	15. 24	56. 16	56. 32	5050	5029
17	Th.	15. 29	15. 33	56. 49	57. 6	5007	4986
18	F.	15. 38	15. 42	57. 22	57. 38	4966	4946
19	Sa.	15. 46	15. 50	57. 52	58. 6	4928	4911
20	Su.	15. 54	15. 57	58. 19	58. 31	4895	4880
21	M.	16. 0	16. 2	58. 42	58. 52	4866	4854
22	Tu.	16. 5	16. 7	59. 0	59. 8	4844	4834
23	W.	16. 8	16. 10	59. 14	59. 20	4827	4820
24	Th.	16. 11	16. 12	59. 24	59. 28	4814	4810
25	F.	16. 13	16. 13	59. 30	59. 31	4808	4806
26	Sa.	16. 13	16. 12	59. 31	59. 29	4806	4809
27	Su.	16. 11	16. 10	59. 25	59. 20	4813	4820
28	M.	16. 8	16. 5	59. 12	59. 3	4830	4841
29	Tu.	16. 2	15. 59	58. 52	58. 39	4854	4870
30	W.	15. 55	15. 50	58. 24	58. 8	4889	4908
31	Th.	15. 46	15. 41	57. 50	57. 31	4931	4955

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AUGUST 1769.

Distances of ♄'s Center from Stars, and from ☉ east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
3	Spica μ	49. 29. 19	47. 46. 22	46. 3. 47	44. 21. 34
4		35. 56. 13	34. 16. 19	32. 36. 49	30. 57. 43
5		22. 48. 18	21. 11. 43	19. 35. 35	17. 59. 56
6	Antares.	55. 30. 45	53. 56. 25	52. 22. 24	50. 48. 41
7		43. 4. 35	41. 32. 39	40. 0. 58	38. 29. 33
8		30. 56. 4			
8	α Aquilæ.	85. 44. 42	84. 23. 36	83. 2. 42	81. 42. 0
9		75. 1. 35	73. 42. 10	72. 22. 59	71. 4. 2
10		64. 33. 9	63. 15. 49	61. 58. 46	60. 42. 2
11	Fomalhaut.	79. 47. 4	78. 27. 23	77. 7. 45	75. 48. 10
12		69. 11. 5	67. 51. 54	66. 32. 50	65. 13. 53
13	α Pegasi.	75. 45. 35	74. 17. 50	72. 49. 58	71. 21. 58
14		64. 0. 6	62. 31. 23	61. 2. 34	59. 33. 40
15		52. 7. 55	50. 38. 37	49. 9. 20	47. 40. 5
16		40. 15. 4	38. 46. 35	37. 18. 24	35. 50. 36
17		28. 40. 36			
17	α Arietis.	68. 51. 27	67. 14. 7	65. 36. 34	63. 58. 48
18		55. 46. 56	54. 7. 59	52. 28. 52	50. 49. 35
19		42. 30. 58			
19	Aldebaran.	75. 23. 7	73. 42. 24	72. 1. 32	70. 20. 30
20		61. 53. 2	60. 11. 7	58. 29. 4	56. 46. 54
21		48. 14. 44	46. 32. 4	44. 49. 21	43. 6. 36
22		34. 32. 59	32. 50. 28	31. 8. 4	29. 25. 50
23	Pollux.	62. 37. 57	60. 54. 0	59. 10. 3	57. 26. 5
24		48. 46. 37			
22	The Sun.	116. 14. 43	114. 37. 27	113. 0. 4	111. 22. 35
23		103. 13. 42	101. 35. 40	99. 57. 33	98. 19. 21
24		90. 7. 24	88. 28. 49	86. 50. 10	85. 11. 28
25		76. 57. 27	75. 18. 33	73. 39. 38	72. 0. 42
26		63. 46. 0	62. 7. 7	60. 28. 15	58. 49. 26
27		50. 36. 6	48. 57. 36	47. 19. 11	45. 40. 53

Distances of γ 's Center from Stars, and from $\odot$ east of her.

Days	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
3	Spica α	42. 39. 45	40. 58. 18	39. 17. 13	37. 36. 31
4		29. 19. 1	27. 40. 42	26. 2. 48	24. 25. 20
5		16. 24. 46			
5	Antares.	61. 51. 27	60. 15. 46	58. 40. 25	57. 5. 25
6		49. 15. 17	47. 42. 10	46. 9. 21	44. 36. 49
7		36. 58. 23	35. 27. 28	33. 56. 47	32. 26. 19
8	α Aquilæ.	80. 21. 30	79. 1. 12	77. 41. 6	76. 21. 14
9		69. 45. 20	68. 26. 53	67. 8. 42	65. 50. 47
10		59. 25. 37			
10	Fomal- haut.	85. 6. 16	83. 46. 24	82. 26. 34	81. 6. 47
11		74. 28. 38	73. 9. 9	71. 49. 43	70. 30. 22
12		63. 55. 3			
12	α Pegasi.	81. 35. 26	80. 8. 8	78. 40. 44	77. 13. 13
13		69. 53. 51	68. 25. 35	66. 57. 12	65. 28. 43
14		58. 4. 40	56. 35. 34	55. 6. 24	53. 37. 11
15		46. 10. 53	44. 41. 44	43. 12. 41	41. 43. 47
16		34. 23. 15	32. 56. 25	31. 30. 18	30. 4. 59
17	α Arietis.	62. 20. 49	60. 42. 38	59. 4. 16	57. 25. 42
18		49. 10. 8	47. 30. 33	45. 50. 49	44. 10. 57
19	Aldeba- ran.	68. 39. 18	66. 57. 57	65. 16. 27	63. 34. 49
20		55. 4. 38	53. 22. 16	51. 39. 50	49. 57. 19
21		41. 23. 50	39. 41. 3	37. 58. 17	36. 15. 36
22		27. 43. 48			
22	Pollux.	69. 33. 22	67. 49. 35	66. 5. 45	64. 21. 53
23		55. 42. 8	53. 58. 12	52. 14. 18	50. 30. 26
21	The Sun.		121. 5. 51	119. 28. 55	117. 51. 52
22		109. 44. 59	108. 7. 18	106. 29. 32	104. 51. 40
23		96. 41. 4	95. 2. 45	93. 24. 22	91. 45. 55
24		83. 32. 44	81. 53. 58	80. 15. 9	78. 36. 19
25		70. 21. 45	68. 42. 48	67. 3. 51	65. 24. 55
26		57. 10. 39	55. 31. 56	53. 53. 16	52. 14. 39
27		44. 2. 41	42. 24. 37	40. 46. 41	39. 8. 54

[9.] AUGUST 1769.

Distances of γ 's Center from $\odot$, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		o / //	o / //	o / //	o / //
5	The Sun.	45. 0. 21	46. 30. 0	47. 59. 19	49. 28. 18
6		56. 48. 24	58. 15. 28	59. 42. 14	61. 8. 42
7		68. 16. 48	69. 41. 36	71. 6. 10	72. 30. 30
8		79. 23. 56	80. 52. 0	82. 14. 54	83. 37. 38
9		90. 29. 9	91. 51. 4	93. 12. 53	94. 34. 37
10		101. 22. 17	102. 43. 40	104. 5. 1	105. 26. 22
11		112. 13. 16	113. 34. 42	114. 56. 11	116. 17. 44
9	Spica μ	20. 53. 32	28. 22. 29	29. 51. 22	31. 20. 12
10		38. 43. 47	40. 12. 25	41. 41. 2	43. 9. 39
11		50. 33. 9	52. 1. 57	53. 30. 48	54. 59. 43
12		62. 25. 43	63. 55. 13	65. 24. 51	66. 54. 37
13		74. 25. 39	75. 56. 20	77. 27. 11	78. 58. 13
14		86. 36. 22			
14	Antares.	41. 6. 54	42. 38. 53	44. 11. 7	45. 43. 36
15		53. 29. 38	55. 3. 33	56. 37. 42	58. 12. 6
16		66. 7. 48	67. 43. 41	69. 10. 49	70. 56. 12
17	ρ Capri- corni.	24. 13. 52	25. 51. 42	27. 29. 47	29. 8. 7
18		37. 23. 22	39. 3. 6	40. 43. 4	42. 23. 16
19	α Aquilæ.	55. 46. 48	57. 12. 51	58. 39. 37	60. 7. 2
20		67. 32. 26	69. 2. 57	70. 33. 51	72. 5. 7
21		79. 46. 16			
21	α Pegasi.	31. 59. 9	33. 31. 37	35. 5. 7	36. 39. 34
22		44. 42. 55	46. 21. 19	48. 0. 10	49. 39. 26
23		58. 0. 51	59. 41. 59	61. 23. 21	63. 4. 56
24		71. 35. 23			
24	α Arietis.	27. 58. 58	29. 42. 32	31. 26. 21	33. 10. 25
25		41. 53. 47	43. 38. 56	45. 24. 12	47. 9. 34
26		55. 57. 32			
26	Aldeba- ran.	23. 31. 10	25. 13. 25	27. 56. 8	28. 39. 15
27		37. 18. 55	39. 3. 22	40. 47. 55	42. 32. 32
28		51. 15. 47	53. 0. 22	54. 44. 53	56. 29. 19
29		65. 10. 3	66. 53. 50	68. 37. 27	70. 20. 54

AUGUST 1769.

[95]

Distances of γ 's Center from $\odot$, and from Stars west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "
4	The Sun.	38. 58. 15	40. 29. 16	41. 59. 58	43. 30. 20
5		50. 56. 58	52. 25. 18	53. 53. 19	55. 21. 1
6		62. 34. 52	64. 0. 45	65. 26. 22	66. 51. 43
7		73. 54. 36	75. 18. 29	76. 42. 10	78. 5. 39
8		85. 0. 13	86. 22. 39	87. 44. 57	89. 7. 7
9		95. 56. 15	97. 17. 50	98. 39. 22	100. 0. 51
10		106. 47. 42	108. 9. 4	109. 30. 27	110. 51. 51
11		117. 39. 19	119. 0. 59	120. 22. 45	
9	Spica μ	32. 48. 59	34. 17. 43	35. 46. 26	37. 15. 7
10		44. 38. 17	46. 6. 57	47. 35. 39	49. 4. 23
11		56. 28. 43	57. 57. 49	59. 27. 1	60. 56. 19
12		68. 24. 31	69. 54. 34	71. 24. 46	72. 55. 8
13		80. 29. 26	82. 0. 51	83. 32. 29	85. 4. 19
14	Antares.	47. 16. 19	48. 49. 17	50. 22. 29	51. 55. 56
15		59. 46. 45	61. 21. 39	62. 56. 47	64. 32. 10
16		72. 32. 51			
16	β Capri- corni.	17. 45. 9	19. 21. 56	20. 58. 59	22. 36. 17
17		30. 46. 42	32. 25. 31	34. 4. 34	35. 43. 51
18		44. 3. 41			
18	α Aquilæ.	50. 10. 36	51. 33. 21	52. 57. 0	54. 21. 30
19		61. 35. 3	63. 3. 38	64. 32. 45	66. 2. 22
20		73. 36. 46	75. 8. 44	76. 40. 59	78. 13. 30
21	α Pegasi.	38. 14. 53	39. 50. 56	41. 27. 40	43. 5. 1
22		51. 19. 5	52. 59. 4	54. 39. 22	56. 19. 58
23		64. 46. 43	66. 28. 40	68. 10. 47	69. 53. 2
24	α Arietis.	34. 54. 42	36. 39. 12	38. 23. 54	40. 8. 46
25		48. 55. 3	50. 40. 36	52. 26. 12	54. 11. 51
26	Aldeba- ran.	30. 22. 42	32. 6. 26	33. 50. 25	35. 34. 35
27		44. 17. 10	46. 1. 51	47. 46. 30	49. 31. 9
28		58. 13. 41	59. 57. 57	61. 42. 6	63. 26. 8
29		72. 4. 11			

Configurations of the SATELLITES of JUPITER
at 8 o' th' Clock in the Evening.

1	1.0	3.	2. ○	4.
2		3.	1. ○	4. 2.
3	2 ●		3. 4. ○	1.
4		4. 2.	1. ○	3.
5		4.	○	2. 1. 3.
6	4.		1. ○	3. 3.
7	4.		2. ○	1. 3 ●
8	4.		3. 2. ○	1.0
9	1 ●	4. 3.	○	2.
10	2 ●	4. 3.	○	1.
11		2. 1.	4. ○	3.
12			○ 2.	1 6 4 3.
13		1.	○	2. 3. 4.
14		2.	○ 3. 1.	4.
15		3. 2.	1. ○	4.
16	1 ●	3.	○	2. 4.
17		3.	○ 2. 1.	4.
18		2. 1.	○ 3.	4. 3.
19	2.0		○ 4. 1.	3.
20		1. 4.	○	2. 3.
21		4. 2.	○ 3. 1.	
22		4. 3. 2. 1.	○	
23	4.	3.	○ 1.	2.
24	4.	3.	○ 2.	1.0
25	4.	2. 1.	○	3.0
26	2.0	4.	○	1. 3.
27		4. 1.	○	2. 3.
28	4.0		2. ○	1 6 3
29		2. 1. 3.	○	4.
30		3.	○ 1. 2.	4.
31	1.0	3.	○	2. 4.

S E P T E M B E R 1769. [97]

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D. H. '
1	F.	Giles.	First Quarter — 7. 17. 23
2	Sa.	Lond. burnt, 1666, O.S.	Full Moon — 15. 10. 36
3	Sa.	15th Sund. after Trinity.	Last Quarter — 22. 6. 4
4	M.		New Moon — 29. 10. 10
5	Tu.		Other Phenomena.
6	W.		D.
7	Th.	Enurachus.	2. ♂ β ♀ diff. Lat. 9'.
8	F.	Nativity of B. V. Mary.	6. ☾ ♀ ♀ 8 ^h . 3'.
9	Sa.		7. ☾ ♀ Ophiuchi 22 ^h . 18'.
10	Sa.	16th Sund. after Trinity.	8. ☾ ♀ B Ophiuchi 0 ^h . 12'.
11	M.		9. ☾ ♀ 21 ^h . 51'.
12	Tu.		10. ☾ ♀ 20 ^h . 22'.
13	W.		14. ♂ ♀ diff. Lat. 36'.
14	Th.	Holy-Crofs.	21. ☾ infra cornu bor. 20 ^h . 25'.
15	F.		22. ☾ ♀ ♀ 6 ^h . 33'.
16	Sa.		☉ enters ♉ at 7 ^h . 24'.
17	Sa.	17th Sund. after Trinity.	☾ ♀ ♀ 9 ^h . 43'.
18	M.	[Lambert.	23. ☾ ♀ ♀ 2 ^h . 20'.
19	Tu.		25. ♂ ♀ diff. Lat. 1°. 25'.
20	W.		☾ ♀ ♀ 18 ^h . 11'.
21	Th.	St. Matthew.	26. ☾ ♀ ♀ 0 ^h . 15'.
22	F.	K. George III. crowned,	☾ ♀ ♀ 7 ^h . 44'.
23	Sa.	1761.	27. ♀ ♀ ♀ diff. Lat. 8'.
24	Sa.	18th Sund. after Trinity.	29. ♀ ♀ ♀ diff. Lat. 9 ^h .
25	M.		
26	Tu.	S. Cyprian.	
27	W.		
28	Th.	[Aug. born.	
29	F.	St. Michael, Pns. Char.	
30	Sa.	S. Jerome.	

[98] SEPTEMBER 1769.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. North.	Equat. of Time Sub.	Diff.
		s ° ' "	h ' "	° ' "	' "	"
1	F.	5. 9. 13. 42	10. 43. 16	8. 7. 10	0.22,9	18,8
2	Sa.	5. 10. 11. 54	10. 46. 54	7. 45. 13	0.41,7	19,1
3	Su.	5. 11. 10. 8	10. 50. 31	7. 23. 9	1. 0,8	19,3
4	M.	5. 12. 8. 24	10. 54. 8	7. 0. 57	1.20,1	19,5
5	Tu.	5. 13. 6. 42	10. 57. 45	6. 38. 38	1.39,6	19,8
6	W.	5. 14. 5. 1	11. 1. 22	6. 16. 12	1.59,4	20,0
7	Th.	5. 15. 3. 21	11. 4. 58	5. 53. 41	2.19,4	20,2
8	F.	5. 16. 1. 43	11. 8. 35	5. 31. 4	2.39,6	20,4
9	Sa.	5. 17. 0. 6	11. 12. 11	5. 8. 21	3. 0,0	20,6
10	Su.	5. 17. 58. 31	11. 15. 47	4. 45. 33	3.20,6	20,7
11	M.	5. 18. 56. 58	11. 19. 22	4. 22. 41	3.41,3	20,8
12	Tu.	5. 19. 55. 26	11. 22. 58	3. 59. 44	4. 2,1	20,9
13	W.	5. 20. 53. 56	11. 26. 34	3. 36. 42	4.23,0	21,0
14	Th.	5. 21. 52. 27	11. 30. 9	3. 13. 37	4.44,0	21,1
15	F.	5. 22. 51. 0	11. 33. 45	2. 50. 29	5. 5,1	21,1
16	Sa.	5. 23. 49. 35	11. 37. 20	2. 27. 17	5.26,2	21,1
17	Su.	5. 24. 4. 13	11. 40. 56	2. 4. 2	5.47,3	21,0
18	M.	5. 25. 46. 53	11. 44. 31	1. 40. 44	6. 8,3	21,0
19	Tu.	5. 26. 45. 34	11. 48. 6	1. 17. 24	6.29,3	20,9
20	W.	5. 27. 44. 18	11. 51. 42	0. 54. 2	6.50,2	20,8
21	Th.	5. 28. 43. 4	11. 55. 18	0. 30. 38	7.11,0	20,7
22	F.	5. 29. 41. 52	11. 58. 53	0. 7. 13 SOUTH.	7.31,7	20,6
23	Sa.	6. 0. 40. 43	12. 2. 29	0. 16. 13	7.52,3	20,5
24	Su.	6. 1. 39. 36	12. 6. 5	0. 39. 40	8.12,8	20,3
25	M.	6. 2. 38. 32	12. 9. 42	1. 3. 7	8.33,1	20,0
26	Tu.	6. 3. 37. 30	12. 13. 18	1. 26. 34	8.53,1	19,8
27	W.	6. 4. 36. 30	12. 16. 55	1. 50. 1	9.12,9	19,6
28	Th.	6. 5. 35. 32	12. 20. 32	2. 13. 27	9.32,5	19,4
29	F.	6. 6. 34. 37	12. 24. 9	2. 36. 52	9.51,9	19,1
30	Sa.	6. 7. 33. 44	12. 27. 46	3. 0. 16	10.11,0	18,7

S E P T E M B E R 1769. [99]

Days of the Month.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	I II	I II	I II		s o I
I	15. 55, 1	1. 4, 3	2. 25, 4	0. 003533	8. 19. 53
7	15. 56, 5	1. 4, 1	2. 25, 8	0. 002853	8. 19. 34
13	15. 58, 0	1. 4, 0	2. 26, 3	0. 002136	8. 19. 15
19	15. 59, 6	1. 4, 0	2. 26, 8	0. 001415	8. 18. 56
25	16. 1, 3	1. 4, 1	2. 27, 3	0. 000694	8. 18. 37

Eclipses. of the SATELLITES of J U P I T E R.

I. Satellite. Emerfions.			II. Satellite.			III. Satellite.		
Days	h	I II	Days	h	I II	Days	h	I II
I	8. 42. 10		4	7* 37. 51	I	5	4. 9. 10	I
3	3. 11. 30		4	10. 6. 47	E	5	5. 57. 34	E
4	21. 40. 49		7	20. 56. 58	I	12	8. 10. 31	I
6	16. 10. 10		7	23. 25. 57	E	12	9. 59. 31	E
8	10. 39. 28		Emerfions.			19	12. 11. 55	I
10	5. 8. 50		11	12. 45. 10		19	14. 1. 34	E
11	23. 38. 11		15	2. 4. 30		26	16. 13. 15	I
13	18. 7. 32		18	15. 23. 52		26	18. 3. 35	E
15	12. 36. 52		22	4. 43. 8		IV. Satellite. Conj.		
17	7* 6. 12		25	18. 2. 31				
19	1. 35. 33		29	7. 21. 49				
20	20. 4. 50							
22	14. 34. 12							
24	9. 3. 32					6	3. 36	supr.
26	3. 32. 49					14	12. 38	infr.
27	22. 2. 6					22	21. 41	supr.
29	16. 31. 21							

[100] S E P T E M B E R 1769.

Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric La- titude.	Declina- tion.	Passage over Merid.
	s o /	o /	s o /	o /	o /	h /

M E R C U R Y. sup. ♂ 2^d 2^h.

1	5. 5. 37.	6. 35 N	5. 8. 17	1. 44 N	10. 5 N	♂
7	6. 1. 2	4. 56	5. 19. 32	1. 24	5. 26	0. 19
13	6. 22. 23	2. 47	6. 0. 7	0. 51	0. 44	0. 35
19	7. 11. 5	0. 34	6. 10. 4	0. 11	3. 49 S	0. 49
25	7. 28. 15	1. 31 S	6. 19. 27	0. 32 S	8. 7	1. 1

V E N U S.

1	1. 5. 34	2. 8 S	3. 24. 30	1. 48 S	19. 29 N	21. 2
7	1. 15. 10	1. 40	4. 0. 58	1. 20	18. 40	21. 7
13	1. 24. 48	1. 9	4. 7. 35	0. 53	17. 33	21. 13
19	2. 4. 27	0. 36	4. 14. 19	0. 26	16. 8	21. 19
25	2. 14. 7	0. 3	4. 21. 10	0. 2	14. 26	21. 25

M A R S.

1	6. 1. 21	1. 21 N	5. 22. 58	0. 51 N	3. 35 N	0. 52
7	6. 4. 3	1. 17	5. 26. 52	0. 48	1. 59	0. 45
13	6. 6. 45	1. 13	6. 0. 44	0. 46	0. 24	0. 37
19	6. 9. 29	1. 9	6. 4. 39	0. 43	1. 12 S	0. 30
25	6. 12. 14	1. 4	6. 8. 35	0. 40	2. 48	0. 23

J U P I T E R.

1	7. 27. 14	0. 52 N	7. 17. 13	0. 50 N	16. 12 S	4. 17
7	7. 27. 42	0. 52	7. 18. 5	0. 48	16. 28	3. 59
13	7. 28. 10	0. 51	7. 19. 1	0. 47	16. 44	3. 41
19	7. 28. 38	0. 51	7. 20. 1	0. 46	17. 1	3. 24
25	7. 29. 7	0. 50	7. 21. 5	0. 45	17. 19	3. 6

S A T U R N.

1	3. 23. 30	0. 5 N	3. 27. 43	0. 5 N	20. 43 N	21. 13
7	3. 23. 44	0. 6	3. 28. 21	0. 6	20. 37	20. 54
13	3. 23. 57	0. 7	3. 28. 57	0. 6	20. 29	20. 35
19	3. 24. 10	0. 7	3. 29. 31	0. 7	20. 23	20. 16
25	3. 24. 21	0. 8	4. 0. 2	0. 7	20. 17	19. 56

S E P T E M B E R 1769. [101]

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S ° ' "	S ° ' "	° ' "	° ' "
1	F.	5. 22. 55. 34	5. 29. 30. 39	5. 0. 47 S	457.20 S
2	Sa.	6. 6. 0. 47	6. 12. 26. 5	4. 50. 0	439. 7
3	Su.	6. 18. 46. 25	6. 25. 2. 11	4. 24. 47	4. 7. 29
4	M.	7. 1. 13. 27	7. 7. 20. 44	3. 47. 23	3. 24. 51
5	Tu.	7. 13. 24. 17	7. 19. 24. 45	3. 0. 12	2. 33. 44
6	W.	7. 25. 22. 33	8. 1. 18. 32	2. 5. 44	1. 36. 29
7	Th.	8. 7. 13. 5	8. 13. 7. 3	1. 6. 19	0. 35. 27 S
8	F.	8. 19. 0. 59	8. 24. 55. 43	0. 4. 13 S	0. 27. 6 N
9	Sa.	9. 0. 51. 48	9. 6. 50. 9	0. 58. 18 N	1. 28. 58
10	Su.	9. 12. 51. 15	9. 18. 55. 36	1. 58. 57	2. 27. 43
11	M.	9. 25. 3. 52	10. 1. 16. 39	2. 55. 8	3. 0. 45
12	Tu.	10. 7. 34. 10	10. 13. 56. 52	3. 44. 16	4. 5. 18
13	W.	10. 20. 25. 0	10. 26. 58. 33	4. 23. 22	438.16
14	Th.	11. 3. 37. 32	11. 10. 21. 48	4. 49. 37	457. 5
15	F.	11. 17. 11. 1	11. 24. 4. 56	5. 0. 25	459.24
16	Sa.	0. 1. 2. 53	0. 8. 4. 24	4. 53. 58	444. 2
17	Su.	0. 15. 8. 50	0. 22. 15. 33	4. 29. 40	411. 4
18	M.	0. 29. 23. 41	1. 6. 32. 52	3. 48. 22	3. 22. 3
19	Tu.	1. 13. 42. 21	1. 20. 51. 42	2. 52. 30	2. 20. 12
20	W.	1. 28. 0. 27	2. 5. 8. 10	1. 45. 42	1. 9. 36 N
21	Th.	2. 12. 14. 41	2. 19. 19. 45	0. 32. 26 N	0. 5. 3 S
22	F.	2. 26. 23. 11	3. 3. 24. 59	0. 42. 22 S	1. 18. 54
23	Sa.	3. 10. 25. 0	3. 17. 23. 13	1. 54. 5	2. 27. 21
24	Su.	3. 24. 19. 35	4. 1. 13. 56	2. 58. 19	3. 26. 29
25	M.	4. 8. 6. 19	4. 14. 56. 32	3. 51. 29	4. 13. 2
26	Tu.	4. 21. 44. 26	4. 28. 29. 48	4. 30. 49	444.40
27	W.	5. 5. 12. 25	5. 11. 52. 15	4. 54. 29	5. 0. 11
28	Th.	5. 18. 28. 54	5. 25. 2. 21	5. 1. 49	459.25
29	F.	6. 1. 32. 9	6. 7. 58. 27	4. 53. 9	443. 9
30	Sa.	6. 14. 20. 55	6. 20. 39. 40	4. 29. 42	413. 3

[102] S E P T E M B E R 1769.

Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declinat. at Noon.	D's Declin. at Midn.
			h /	° /	° /	° /	° /
1	F.	3	0. 44	171. 31	177. 34	1. 48 S	4. 21 S
2	Sa.	4	1. 30	183. 36	189. 36	6. 50	9. 12
3	Su.	5	2. 16	195. 36	201. 38	11. 26	13. 32
4	M.	6	3. 3	207. 42	213. 49	15. 28	17. 12
5	Tu.	7	3. 50	219. 59	226. 13	18. 45	20. 4
6	W.	8	4. 38	232. 30	238. 49	21. 10	22. 1
7	Th.	9	5. 27	245. 12	251. 37	22. 38	22. 59
8	F.	10	6. 16	258. 3	264. 30	23. 5	22. 55
9	Sa.	11	7. 6	270. 56	277. 22	22. 30	21. 49
10	Su.	12	7. 55	283. 46	290. 8	20. 52	19. 42
11	M.	13	8. 43	296. 28	302. 45	18. 17	16. 38
12	Tu.	14	9. 31	309. 0	315. 13	14. 47	12. 45
13	W.	15	10. 19	321. 24	327. 35	10. 32	8. 10
14	Th.	16	11. 6	333. 47	340. 0	5. 41	3. 6 S
15	F.	17	11. 54	346. 16	352. 36	0. 27 S	2. 14 N
16	Sa.	18	12. 44	359. 0	5. 32	4. 55 N	7. 33
17	Su.	19	13. 37	12. 11	18. 59	10. 7	12. 33
18	M.	20	14. 32	25. 56	33. 3	14. 50	16. 54
19	Tu.	21	15. 30	40. 20	47. 46	18. 43	20. 15
20	W.	22	16. 29	55. 19	62. 58	21. 28	22. 20
21	Th.	23	17. 30	70. 41	78. 24	22. 50	22. 57
22	F.	24	18. 29	86. 5	93. 41	22. 43	22. 7
23	Sa.	25	19. 26	101. 10	108. 31	21. 10	19. 54
24	Su.	26	20. 20	115. 41	122. 41	18. 21	16. 33
25	M.	27	21. 11	129. 30	136. 9	14. 32	12. 20
26	Tu.	28	22. 0	142. 38	149. 0	10. 0	7. 34
27	W.	29	22. 47	155. 14	161. 23	5. 3 N	2. 29 N
28	Th.	30	23. 33	167. 27	173. 28	0. 4 S	2. 36 S
29	F.	1	0	179. 27	185. 27	5. 6	7. 30
30	Sa.	2	0. 19	191. 26	197. 28	9. 48	11. 59

S E P T E M B E R 1769. [103]

Days of the Month.	Days of the Week.	Semid ^r . D at Noon.	Semid ^r . D at Mid- night.	Hor. Par. D at Noon.	Hor. Par. D at Midnight.	Proport. Lo- gar. at Noon.	Proport. Lo- gar. at Midn.
		/ //	/ //	/ //	/ //		
1	F.	15. 35	15. 30	57. 12	56. 52	4979	5004
2	Sa.	15. 24	15. 19	56. 33	56. 13	5028	5054
3	Su.	15. 14	15. 9	55. 54	55. 37	5078	5100
4	M.	15. 5	15. 1	55. 20	55. 6	5123	5141
5	Tu.	14. 57	14. 55	54. 53	54. 43	5158	5171
6	W.	14. 52	14. 51	54. 34	54. 29	5183	5190
7	Th.	14. 50	14. 50	54. 25	44. 25	5195	5195
8	F.	14. 50	14. 51	54. 27	54. 31	5193	5187
9	Sa.	14. 53	14. 56	54. 38	54. 47	5178	5166
10	Su.	14. 59	15. 3	54. 59	55. 13	5150	5132
11	M.	15. 7	15. 12	55. 29	55. 47	5111	5087
12	Tu.	15. 17	15. 23	56. 6	55. 26	5063	5037
13	W.	15. 28	15. 34	56. 47	57. 9	5010	4983
14	Th.	15. 40	15. 46	57. 30	57. 51	4956	4930
15	F.	15. 51	15. 56	58. 11	58. 29	4905	4882
16	Sa.	16. 1	16. 5	58. 45	59. 0	4863	4844
17	Su.	16. 8	16. 12	59. 14	59. 25	4827	4813
18	M.	16. 14	16. 15	59. 33	59. 39	4803	4797
19	Tu.	16. 16	16. 17	59. 42	59. 44	4793	4790
20	W.	16. 16	16. 16	59. 43	59. 41	4792	4794
21	Th.	16. 15	16. 13	59. 37	59. 31	4799	4806
22	F.	16. 11	16. 9	59. 24	59. 16	4815	4824
23	Sa.	16. 7	16. 4	59. 7	58. 58	4835	4846
24	Su.	16. 1	15. 58	58. 47	58. 36	4860	4874
25	M.	15. 55	15. 51	58. 25	58. 12	4888	4903
26	Tu.	15. 48	15. 44	57. 59	57. 45	4919	4937
27	W.	15. 40	15. 36	57. 31	57. 16	4955	4973
28	Th.	15. 32	15. 28	57. 1	55. 45	4993	5013
29	F.	15. 24	15. 19	56. 29	56. 13	5033	5054
30	Sa.	15. 15	15. 11	55. 58	55. 43	5073	5093

[104] SEPTEMBER 1769.

Distances of ♃'s Center from Stars, and from ☉ east of her.											
Days.	Stars Names.	Noon.	3 Hours.			6 Hours.			9 Hours.		
		° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	
2	Antares.	60. 19. 2	58. 42. 47	57. 6. 49	55. 31. 10						
3		47. 37. 30	46. 3. 37	44. 30. 2	42. 56. 43						
4		35. 14. 26									
4	α Aquilæ.	89. 30. 48	88. 8. 2	86. 45. 30	85. 23. 12						
5		78. 35. 22	77. 14. 32	75. 53. 57	74. 33. 38						
6		67. 56. 25	66. 37. 50	65. 19. 34	64. 1. 38						
7		57. 37. 26									
7	Fomal- haut.	83. 27. 20	82. 7. 30	80. 47. 46	79. 28. 8						
8		72. 51. 28	71. 32. 25	70. 13. 29	68. 54. 41						
9		62. 22. 49									
9	α Pegasi.	79. 42. 26	78. 15. 40	76. 48. 48	75. 21. 49						
10		68. 5. 16	66. 37. 37	65. 9. 52	63. 41. 59						
11		56. 20. 50	54. 52. 15	53. 23. 35	51. 54. 52						
12		44. 30. 41	43. 1. 53	41. 33. 10	40. 4. 36						
13		32. 45. 59									
13	α Arietis.	73. 32. 27	71. 55. 28	70. 18. 10	68. 40. 33						
14		60. 27. 53	58. 48. 28	57. 8. 47	55. 28. 50						
15		47. 5. 14									
15	Aldeba- ran.	79. 58. 14	78. 16. 15	76. 34. 0	74. 51. 29						
16		66. 15. 23	64. 31. 30	62. 47. 25	61. 3. 9						
17		52. 19. 23	50. 34. 15	48. 49. 2	47. 3. 45						
18		38. 16. 59	36. 31. 41	34. 46. 28	33. 1. 22						
19		24. 19. 39	22. 36. 37	20. 54. 18	19. 12. 50						
20	Pollux.	52. 6. 7	50. 21. 6	48. 36. 15	46. 51. 35						
21		38. 11. 58	36. 29. 0	34. 46. 27	33. 4. 23						
22		24. 44. 5	23. 6. 53	21. 31. 4	19. 56. 58						
20	The Sun.	119. 42. 56	118. 3. 26	116. 23. 59	114. 44. 35						
21		106. 28. 21	104. 49. 18	103. 10. 20	101. 31. 28						
22		93. 18. 40	91. 40. 25	90. 2. 17	88. 24. 45						
23		80. 16. 3	78. 38. 48	77. 1. 41	75. 24. 42						
24		67. 21. 57	65. 45. 52	64. 9. 57	62. 34. 11						
25		54. 37. 46	53. 3. 0	51. 28. 25	49. 54. 1						
26		42. 4. 57	40. 31. 46	38. 58. 48							

S E P T E M B E R 1769. [105]

Distances of ☽'s Center from Stars, and from ☉ east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° / "	° / "	° / "	° / "
1	Antares.	66. 47. 0	65. 9. 34	63. 32. 25	61. 55. 35
2		53. 55. 49	52. 20. 47	50. 46. 4	49. 11. 39
3		41. 23. 41	39. 50. 57	38. 18. 29	36. 46. 19
4	α Aquilæ.	84. 1. 9	82. 39. 21	81. 17. 47	79. 56. 27
5		73. 13. 36	71. 53. 52	70. 34. 25	69. 15. 16
6		62. 44. 2	61. 26. 48	60. 9. 57	58. 53. 29
7	Fomalhaut.	78. 8. 36	76. 49. 10	75. 29. 50	74. 10. 36
8		67. 36. 0	66. 17. 28	64. 59. 5	63. 40. 52
9	α Pegasi.	73. 54. 44	72. 27. 32	71. 0. 13	69. 32. 48
10		62. 13. 59	60. 45. 51	59. 17. 37	57. 49. 17
11		50. 26. 4	48. 57. 13	47. 28. 21	45. 59. 30
12		38. 36. 16	37. 8. 11	35. 40. 25	34. 13. 0
13	α Arietis.	67. 2. 37	65. 24. 22	63. 45. 50	62. 7. 0
14		53. 48. 37	52. 8. 8	50. 27. 25	48. 46. 27
15	Aldebaran.	73. 8. 44	72. 25. 44	69. 42. 30	67. 59. 3
16		59. 18. 42	57. 34. 5	55. 49. 19	54. 4. 25
17		45. 18. 25	43. 33. 3	41. 47. 41	40. 2. 20
18		31. 16. 26	29. 31. 43	27. 47. 18	26. 3. 15
19	Pollux.	17. 32. 20			
19		59. 7. 39	57. 22. 6	55. 36. 39	53. 51. 19
20		45. 7. 8	43. 22. 55	41. 38. 58	39. 55. 18
21		31. 22. 53	29. 41. 58	28. 1. 47	26. 22. 27
22	The Sun.	18. 25. 2			
19					121. 22. 28
20		113. 5. 13	111. 25. 54	109. 46. 39	108. 7. 28
21		99. 52. 42	98. 14. 2	96. 35. 29	94. 57. 1
22		86. 46. 21	85. 8. 35	83. 30. 57	81. 53. 26
23		73. 47. 51	72. 11. 9	70. 34. 36	68. 58. 12
24		60. 58. 35	59. 23. 8	57. 47. 50	56. 12. 43
25		48. 19. 48	46. 45. 47	45. 11. 58	43. 38. 21

[106] S E P T E M B E R 1769.

Distances of γ 's Center from $\odot$, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
3	The Sun.		39. 15. 34	40. 41. 23	42. 6. 58
4		49. 11. 34	50. 35. 51	51. 59. 56	53. 23. 49
5		60. 20. 16	61. 43. 2	63. 5. 39	64. 28. 7
6		71. 18. 18	72. 40. 1	74. 1. 39	75. 23. 12
7		82. 9. 50	83. 31. 2	84. 52. 13	86. 13. 23
8		92. 59. 16	94. 20. 33	95. 41. 53	97. 3. 18
9		103. 51. 32	105. 13. 32	106. 35. 42	107. 58. 0
10		114. 51. 47	115. 15. 3	117. 38. 30	119. 2. 9
8	Spica μ	58. 24. 22	59. 53. 12	61. 22. 6	62. 51. 4
9		70. 17. 11	71. 46. 46	73. 16. 30	74. 46. 23
10		82. 18. 18			
10	Antares.	36. 51. 14	38. 21. 48	39. 52. 36	41. 23. 38
11		49. 2. 32	50. 35. 7	52. 8. 0	53. 41. 10
12		61. 31. 13	63. 6. 8	64. 41. 22	66. 16. 55
13		74. 19. 31			
13	β Capri- corni.	19. 31. 1	21. 8. 28	22. 46. 17	24. 24. 27
14		32. 40. 19	34. 20. 29	36. 0. 58	37. 41. 46
15		46. 10. 21			
15	α Aquila.	51. 55. 54	53. 21. 30	54. 48. 0	56. 15. 20
16		63. 43. 8	65. 14. 37	66. 46. 38	68. 19. 10
17		76. 8. 11	77. 43. 3	79. 18. 11	82. 53. 35
18	α Pegasi.	41. 12. 25	42. 51. 55	44. 31. 59	46. 12. 34
19		54. 41. 2	56. 23. 34	58. 6. 18	59. 49. 13
20		68. 25. 41			
20	α Arietis.	24. 48. 9	26. 31. 51	28. 15. 54	30. 0. 16
21		38. 44. 43	40. 29. 52	42. 15. 2	44. 0. 14
22		52. 45. 47			
22	Aldeba- ran.	20. 20. 28	22. 1. 9	23. 42. 25	25. 24. 11
23		33. 56. 56	35. 39. 52	37. 22. 50	39. 5. 49
24		47. 40. 17	49. 22. 59	51. 5. 35	52. 48. 6
25		61. 19. 8	63. 0. 58	64. 42. 40	66. 24. 14
26		74. 49. 53			
26	Pollux.	33. 33. 21	35. 10. 30	36. 47. 45	38. 25. 5
27		46. 32. 24	48. 9. 49	49. 47. 11	51. 24. 28
28		59. 29. 14			

S E P T E M B E R 1769. [107]

Distances of ♄'s Center from ☉, and from Stars west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
3	The Sun.	43. 32. 20	44. 57. 28	46. 22. 23	47. 47. 5
4		54. 47. 30	56. 10. 58	57. 34. 15	58. 57. 21
5		65. 50. 26	67. 12. 36	68. 34. 37	69. 56. 31
6		76. 44. 40	78. 6. 3	79. 27. 21	80. 48. 36
7		87. 34. 32	88. 55. 41	90. 16. 51	91. 38. 3
8		98. 24. 46	99. 46. 18	101. 7. 56	102. 29. 41
9		109. 20. 26	110. 43. 1	112. 5. 47	113. 28. 42
10		120. 25. 59			
7	Spica ♏	52. 29. 29	53. 58. 9	55. 26. 51	56. 55. 35
8		64. 20. 6	65. 49. 13	67. 18. 25	68. 47. 44
9		76. 16. 26	77. 46. 39	79. 17. 1	80. 47. 34
10	Antares.	42. 54. 54	44. 26. 25	45. 58. 12	47. 30. 14
11		55. 14. 36	56. 48. 19	58. 22. 19	59. 56. 37
12		67. 52. 47	69. 28. 59	71. 5. 30	72. 42. 21
13	♑ Capri-	26. 2. 57	27. 41. 48	29. 20. 58	31. 0. 29
14		39. 22. 53	41. 4. 18	42. 46. 1	44. 28. 2
15	♐ Aquilæ.	57. 43. 28	59. 12. 22	60. 41. 58	62. 12. 14
16		69. 52. 10	71. 25. 36	72. 59. 26	74. 33. 38
17		82. 29. 12			
17	♊ Pegasi.	34. 41. 27	36. 18. 1	37. 55. 25	39. 33. 34
18		47. 53. 36	49. 34. 58	51. 16. 41	52. 58. 43
19		61. 32. 18	63. 15. 31	64. 58. 51	66. 42. 15
20	♈ Aries.	31. 44. 52	33. 29. 39	35. 14. 34	36. 59. 36
21		45. 45. 25	47. 30. 35	49. 15. 43	51. 0. 47
22	Aldeba- ran.	27. 6. 19	28. 48. 43	30. 31. 19	32. 14. 4
23		40. 48. 47	42. 31. 44	44. 14. 38	45. 57. 29
24		54. 30. 31	56. 12. 50	57. 55. 3	59. 37. 9
25		68. 5. 40	69. 46. 56	71. 28. 3	73. 9. 2
26	Pollux.	40. 2. 30	41. 39. 58	43. 17. 27	44. 54. 56
27		53. 1. 41	54. 38. 48	56. 15. 47	57. 52. 36

[108] SEPTEMBER 1769.

Configurations of the SATELLITES of JUPITER
at 7 o' th' Clock in the Evening.

1	1 ●		2.		3. ○		4.
2				2.	○	1.	3.
3			1.		○	2.	3. 4.
4	2 ●				○	1.	3. 4.
5			2. 1.	3.	○	4.	
6		3.	4.		○	2. 1.	
7		4. 3.		1.	○	2.	
8		4.	2.	3.	○ 1.		
9	4.		2.		○	1.	3.
10	4.		1.		○	2.	3.
11	4.				○ 2.	1.	3.
12	3 ●	4. 2.	1.		○		
13		3.	4.		○	2.	1.
14		3.	1.		○	4.	2.
15			3.		○	1.	4.
16	1.0		2.		○	3.	4.
17	1 ●				○	4.	3. 4.
18					○	2. 1.	3. 4.
19			2. 1.		○	3.	4.
20	2.0		3.		○	1.	4.
21			3.	1.	○	2. 4.	
22			3.	2.	○	4. 1.	
23			2. 4.	1.	○	3.	
24	1 ●	4.			○	2.	3.
25		4.			○	1. 2.	3.
26		4.	2. 1.		○	3.	
27	4.		3.	2.	○	1.	
28		4.	3.	1.	○	2.	
29	2 ●	4.	3.		○	1.	
30			2.	4. 1.	○	3.	

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D h /
1	Su.	19th Sund. after Trinity.	First Quarter — 7. 12. 44
2	M.		Full Moon — 14. 21. 19
3	Tu.		Last Quarter — 21. 13. 30
4	W.		New Moon — 29. 1. 53
5	Th.		Other Phenomena.
6	F.	Faith.	D.
7	Sa.		2. ☾ 1 ad 1 ☽ 17 ^h . 0 ['] .
8	Su.	20th Sund. after Trinity.	3. ☾ ♄ 16 ^h . 9 ['] .
9	M.	S. Denys.	5. ♀ ♄ diff. Lat. 28 ['] .
10	Tu.	Oxf. and Cam. T. begin.	☾ B Ophiuchi 8 ^h . 15 ['] .
11	W.		7. ☾ π ♀ Im. 9 ^h . 22 ['] .
12	Th.		Em. 10 ^h . 23 ['] .
13	F.	Transf. of K. Edw. Conf.	12. ♀ χ ☽ diff. Lat. 22 ['] .
14	Sa.		13. ♄ ♄ ☽ diff. Lat. 41 ['] .
15	Su.	21st Sund. after Trinity.	15. ♀ σ ☽ diff. Lat. 33 ['] .
16	M.		16. ♀ 1 ad 1 ☽ diff. Lat. 57 ['] .
17	Tu.	Etheldred.	☾ ♄ ♄ Im. 15 ^h . 21 ['] .
18	W.	St. Luke.	Em. 15 ^h . 58 ['] .
19	Th.		19. ☾ η ♄ 12 ^h . 40 ['] .
20	F.		☾ μ ♄ 15 ^h . 47 ['] .
21	Sa.		20. ☾ ζ ♄ 8 ^h . 7 ['] .
22	Su.	22d Sund. after Trinity.	22. ♀ β ♄ diff. Lat. 42 ['] .
23	M.		☾ 2 ad 2 ☽ 9 ^h . 35 ['] .
24	Tu.	Crispin.	☾ enters ♄ at 15 ^h . 9 ['] .
25	W.	K. Geo. III. Accession.	23. ☾ 1 ☽ 4 ^h . 28 ['] .
26	Th.	K. Geo. III. proclaimed,	☾ π ☽ 13 ^h . 27 ['] .
27	F.	[1760]	25. ☾ ε ☽ 11 ^h . 17 ['] .
28	Sa.	St. Simon and St. Jude.	26. ♄ λ ☽ diff. Lat. 33 ['] .
29	Su.	23d Sund. after Trinity.	29. ♀ η ♄ diff. Lat. 12 ['] .
30	M.		♀ Stationary.
31	Tu.		30. ☾ ♄ ♄ 23 ^h . 32 ['] .

[116] OCTOBER 1769.

Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time. Sub.	Diff.
		s o ' "	h ' "	o ' "	' "	"
1	Su.	6. 8. 32. 53	12. 31. 24.	3. 23. 37	10. 29. 7	18, 6
2	M.	6. 9. 32. 4	12. 35. 2	3. 46. 56	10. 48. 3	18, 2
3	Tu.	6. 10. 31. 17	12. 38. 40	4. 10. 13	11. 6. 5	17, 8
4	W.	6. 11. 30. 32	12. 42. 19	4. 33. 27	11. 24. 3	17, 5
5	Th.	6. 12. 29. 48	12. 45. 58	4. 56. 37	11. 41. 8	17, 1
6	F.	6. 13. 29. 6	12. 49. 37	5. 19. 43	11. 58. 9	16, 8
7	Sa.	6. 14. 28. 26	12. 53. 17	5. 42. 45	12. 15. 7	16, 4
8	Su.	6. 15. 27. 48	12. 56. 57	6. 5. 43	12. 32. 1	16, 0
9	M.	6. 16. 27. 11	13. 0. 38	6. 28. 36	12. 48. 1	15, 5
10	Tu.	6. 17. 26. 36	13. 4. 19	6. 51. 23	13. 3. 6	15, 1
11	W.	6. 18. 26. 3	13. 8. 0	7. 14. 5	13. 18. 7	14, 6
12	Th.	6. 19. 25. 32	13. 11. 42	7. 36. 41	13. 33. 3	14, 1
13	F.	6. 20. 25. 3	13. 15. 25	7. 59. 10	13. 47. 4	13, 5
14	Sa.	6. 21. 24. 35	13. 19. 8	8. 21. 32	14. 0. 9	13, 0
15	Su.	6. 22. 24. 9	13. 22. 51	8. 43. 48	14. 13. 9	12, 4
16	M.	6. 23. 23. 46	13. 26. 35	9. 5. 56	14. 26. 3	11, 8
17	Tu.	6. 24. 23. 25	13. 30. 20	9. 27. 57	14. 38. 1	11, 2
18	W.	6. 25. 23. 6	13. 34. 5	9. 49. 49	14. 49. 3	10, 6
19	Th.	6. 26. 22. 49	13. 37. 51	10. 11. 32	14. 59. 9	10, 0
20	F.	6. 27. 22. 34	13. 41. 38	10. 33. 7	15. 9. 9	9, 2
21	Sa.	6. 28. 22. 22	13. 45. 25	10. 54. 33	15. 19. 1	8, 6
22	Su.	6. 29. 22. 12	13. 49. 13	11. 15. 49	15. 27. 7	7, 8
23	M.	7. 0. 22. 5	13. 53. 2	11. 36. 55	15. 35. 5	7, 1
24	Tu.	7. 1. 22. 0	13. 56. 51	11. 57. 50	15. 42. 6	6, 4
25	W.	7. 2. 21. 56	14. 0. 41	12. 18. 34	15. 49. 0	5, 7
26	Th.	7. 3. 21. 55	14. 4. 32	12. 39. 7	15. 54. 7	4, 9
27	F.	7. 4. 21. 57	14. 8. 24	12. 59. 29	15. 59. 6	4, 1
28	Sa.	7. 5. 22. 1	14. 12. 16	13. 19. 38	16. 3. 7	3, 4
29	Su.	7. 6. 22. 7	14. 16. 9	13. 39. 35	16. 7. 1	2, 6
30	M.	7. 7. 22. 14	14. 20. 3	13. 59. 18	16. 9. 7	1, 8
31	Tu.	7. 8. 22. 23	14. 23. 58	14. 18. 48	16. 11. 5	1, 0

OCTOBER 1769.

[111]

Days.	Semidia- meter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	° ' "	° ' "	° ' "		S ° '
1	16. 2, 9	1. 4, 3	2. 27, 8	9. 999950	8. 18. 18
7	16. 4, 6	1. 4, 6	2. 28, 5	9. 999184	8. 17. 59
13	16. 6, 2	1. 5, 0	2. 28, 9	9. 998419	8. 17. 40
19	16. 7, 9	1. 5, 6	2. 29, 3	9. 997693	8. 17. 21
25	16. 9, 5	1. 6, 1	2. 29, 8	9. 996994	8. 17. 2

Eclipses of the SATELLITES of JUPITER.

I. Satellite. Emerfions.			II. Satellite. Emerfions.			III. Satellite.		
D.	h	' "	D.	h	' "	D.	h	' "
1	11.	0. 35	2	20.	41. 10	3	20.	14. 18 I
3	5.	29. 48	6	10.	0. 30	3	22.	5. 23 E
4	23.	58. 58	9	23.	19. 45	11	0.	14. 58 I
6	18.	28. 6	13	12.	38. 55	11	2.	6. 47 E
8	12.	57. 18	17	1.	58. 1	18	4.	15. 12 I
10	7.	26. 23				18	6.	7. 40 E
12	1.	55. 26				IV. Satellite. Conj.		
13	20.	24. 29				1	6.	44 Infr.
15	14.	53. 31				9	15.	47 Supr.
17	9.	22. 36						

[112] O C T O B E R 1769.

Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric Lati- tude.	Declina- tion.	Passage over Merid.
	° ° '	° ° '	° ° '	° ° '	° ° '	h '

MERCURY. greatest Elong. 17^d.

1	8. 14. 47	3. 24 S	6. 28. 18	1. 15 S	12. 3 S	1. 12
7	9. 1. 25	5. 1	7. 6. 34	1. 56	15. 33	1. 21
13	9. 18. 56	6. 15	7. 14. 8	2. 32	18. 31	1. 28
19	10. 8. 11	6. 56	7. 20. 36	2. 55	20. 44	1. 31
25	11. 0. 15	6. 46	7. 25. 11	2. 59	21. 59	1. 27

V E N U S.

1	2. 23. 48	0. 33 N	4. 28. 7	0. 22 N	12. 29 N	21. 31
7	3. 3. 31	1. 6	5. 5. 8	0. 43	10. 18	21. 36
13	3. 13. 14	1. 38	5. 12. 14	1. 1	7. 55	21. 41
19	3. 22. 58	2. 6	5. 19. 24	1. 16	5. 22	21. 45
25	4. 2. 43	2. 32	5. 26. 38	1. 28	2. 41	21. 49

M A R S. ☿ 13^d. 6^h.

1	6. 14. 59	1. 1 N	6. 12. 32	0. 38 N	4. 22 S	0. 16
7	6. 17. 46	0. 56	6. 16. 31	0. 35	5. 58	0. 9
13	6. 20. 33	0. 51	6. 20. 30	0. 32	7. 31	0. 1
19	6. 23. 22	0. 46	6. 24. 32	0. 29	9. 4	23. 53
25	6. 26. 12	0. 41	6. 28. 34	0. 26	10. 34	23. 46

J U P I T E R.

1	7. 29. 35	0. 50 N	7. 22. 11	0. 44 N	17. 37 S	2. 49
7	8. 0. 3	0. 49	7. 23. 21	0. 43	17. 56	2. 31
13	8. 0. 31	0. 49	7. 24. 33	0. 43	18. 14	2. 14
19	8. 0. 59	0. 48	7. 25. 46	0. 42	18. 32	1. 57
25	8. 1. 27	0. 48	7. 27. 1	0. 41	18. 51	1. 39

S A T U R N. ♄ 24^d. 10^h.

1	3. 24. 37	0. 8 N	4. 0. 30	0. 8 N	20. 12 N	19. 37
7	3. 24. 50	0. 8	4. 0. 55	0. 8	20. 8	19. 17
13	3. 25. 4	0. 9	4. 1. 17	0. 9	20. 3	18. 56
19	3. 25. 17	0. 10	4. 1. 35	0. 10	20. 0	18. 36
25	3. 25. 31	0. 11	4. 1. 49	0. 11	19. 57	18. 14

OCTOBER 1769. [113]					
Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S ° ' "	S ° ' "	° ' "	° ' "
1	Su.	6. 26. 54. 32	7. 3. 5. 51	3. 53. 22 S	3. 31. 13 S
2	M.	7. 9. 13. 35	7. 15. 18. 0	3. 6. 44	2. 40. 19
3	Tu.	7. 21. 19. 27	7. 27. 18. 18	2. 12. 12	1. 42. 51
4	W.	8. 3. 14. 59	8. 9. 9. 53	1. 12. 28	0. 41. 26 S
5	Th.	8. 15. 3. 45	8. 20. 57. 3	0. 9. 59 S	0. 21. 31 N
6	F.	8. 26. 50. 26	9. 2. 44. 31	0. 52. 49 N	1. 23. 38
7	Sa.	9. 8. 40. 6	9. 14. 37. 46	1. 53. 46	2. 22. 43
8	Su.	9. 20. 38. 9	9. 26. 42. 5	2. 50. 26	3. 16. 24
9	M.	10. 2. 50. 7	10. 9. 2. 51	3. 40. 26	4. 2. 8
10	Tu.	10. 15. 20. 54	10. 21. 44. 39	4. 21. 18	4. 37. 23
11	W.	10. 28. 14. 34	11. 4. 50. 49	4. 50. 14	4. 59. 24
12	Th.	11. 11. 33. 36	11. 18. 22. 50	5. 4. 39	5. 5. 41
13	F.	11. 25. 18. 23	0. 2. 19. 59	5. 2. 16	4. 54. 16
14	Sa.	0. 9. 27. 0	0. 16. 38. 50	4. 41. 38	4. 24. 23
15	Su.	0. 23. 54. 41	1. 1. 13. 38	4. 2. 41	3. 36. 52
16	M.	1. 8. 34. 51	1. 15. 57. 17	3. 7. 17	2. 34. 26
17	Tu.	1. 23. 19. 56	2. 0. 42. 1	1. 58. 55	1. 21. 27
18	W.	2. 8. 2. 38	2. 15. 21. 13	0. 42. 40 N	0. 3. 21 N
19	Th.	2. 22. 36. 59	2. 29. 49. 41	0. 35. 50 S	1. 14. 11 S
20	F.	3. 6. 58. 56	3. 14. 4. 28	1. 51. 5	2. 25. 58
21	Sa.	3. 21. 6. 11	3. 28. 4. 6	2. 58. 22	3. 27. 42
22	Su.	4. 4. 58. 6	4. 11. 48. 14	3. 53. 46	4. 16. 13
23	M.	4. 18. 34. 41	4. 25. 17. 25	4. 34. 57	4. 49. 36
24	Tu.	5. 1. 56. 35	5. 8. 32. 15	5. 0. 18	5. 6. 50
25	W.	5. 15. 4. 32	5. 21. 33. 32	5. 9. 21	5. 7. 46
26	Th.	5. 27. 59. 14	6. 4. 21. 50	5. 2. 22	4. 53. 13
27	F.	6. 10. 41. 15	6. 16. 57. 37	4. 40. 33	4. 24. 32
28	Sa.	6. 23. 11. 3	6. 29. 21. 34	4. 5. 27	3. 43. 40
29	Su.	7. 5. 29. 22	7. 11. 34. 29	3. 19. 23	2. 52. 58
30	M.	7. 17. 37. 9	7. 23. 37. 24	2. 24. 46	1. 55. 1
31	Tu.	7. 29. 35. 44	8. 5. 32. 14	1. 24. 11	0. 52. 35 S

[114] OCTOBER 1769.							
Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declinat. at Noon.	D's Declin. at Midn.
			h /	° /	° /	° /	° /
1	Su.	3	1. 5	203. 31	209. 37	14. 1 S	15. 52 S
2	M.	4	1. 52	215. 47	222. 0	17. 32	19. 0
3	Tu.	5	2. 40	228. 17	234. 36	20. 14	21. 15
4	W.	6	3. 28	240. 58	247. 21	22. 1	22. 32
5	Th.	7	4. 18	253. 46	260. 11	22. 48	22. 48
6	F.	8	5. 7	266. 35	272. 57	22. 33	22. 3
7	Sa.	9	5. 55	279. 18	285. 36	21. 18	20. 18
8	Su.	10	6. 43	291. 52	298. 5	19. 4	17. 38
9	M.	11	7. 31	304. 15	310. 23	15. 58	14. 7
10	Tu.	12	8. 17	316. 30	322. 37	12. 5	9. 54
11	W.	13	9. 5	328. 43	334. 52	7. 33	5. 6 S
12	Th.	14	9. 52	341. 4	347. 20	2. 32 S	0. 5 N
13	F.	15	10. 41	353. 42	0. 11	2. 46 N	5. 26
14	Sa.	16	11. 33	6. 49	13. 37	8. 4	10. 37
15	Su.	17	12. 28	20. 36	27. 47	13. 3	15. 18
16	M.	18	13. 26	35. 9	42. 42	17. 20	19. 6
17	Tu.	19	14. 27	50. 24	58. 14	20. 33	21. 40
18	W.	20	15. 29	66. 9	74. 5	22. 23	22. 43
19	Th.	21	16. 30	82. 0	89. 49	22. 40	22. 14
20	F.	22	17. 29	97. 30	105. 1	21. 26	20. 18
21	Sa.	23	18. 24	112. 20	119. 27	18. 52	17. 11
22	Su.	24	19. 16	126. 21	133. 3	15. 16	13. 10
23	M.	25	20. 4	139. 35	145. 56	10. 55	8. 33
24	Tu.	26	20. 50	152. 9	158. 15	6. 7	3. 38 N
25	W.	27	21. 36	164. 16	170. 13	1. 8 N	1. 22 S
26	Th.	28	22. 20	176. 9	182. 3	3. 49 S	6. 13
27	F.	29	23. 6	187. 58	193. 55	8. 32	10. 44
28	Sa.	30	23. 52	199. 54	205. 56	12. 49	14. 45
29	Su.	1	0	212. 2	218. 12	16. 30	18. 4
30	M.	2	0. 39	224. 26	230. 43	19. 25	20. 33
31	Tu.	3	1. 27	237. 4	243. 27	21. 28	22. 7

OCTOBER 1769.

[115]

Days of the Month.	Days of the Week.	Semidr. Δ at Noon.	Semidr. Δ at Mid-night.	Hor. Par. Δ at Noon.	Hor. Par. Δ at Midnight.	Sat. at Noon.	Propor. Lo-ear. at Midn.	Propor. Lo-ear. at Noon.
		1 11	1 11	1 11	1 11			
1	Su.	15. 7	15. 3	55. 28	55. 14	5112	5130	
2	M.	15. 0	14. 57	55. 2	54. 50	5146	5162	
3	Tu.	14. 54	14. 52	54. 40	54. 32	5175	5186	
4	W.	14. 50	14. 49	54. 26	54. 22	5194	5199	
5	Th.	14. 48	14. 48	54. 19	54. 20	5203	5202	
6	F.	14. 49	14. 50	54. 23	54. 27	5198	5193	
7	Sa.	14. 52	14. 55	54. 35	54. 45	5182	5169	
8	Su.	14. 58	15. 3	54. 58	55. 13	5152	5132	
9	M.	15. 7	15. 13	55. 31	55. 51	5108	5082	
10	Tu.	15. 19	15. 25	56. 13	56. 36	5054	5025	
11	W.	15. 32	15. 39	57. 1	57. 27	4992	4960	
12	Th.	15. 46	15. 53	57. 52	58. 18	4928	4896	
13	F.	16. 0	16. 6	58. 43	59. 7	4865	4835	
14	Sa.	16. 12	16. 17	59. 28	59. 47	4810	4787	
15	Su.	16. 22	16. 26	60. 4	60. 17	4766	4751	
16	M.	16. 28	16. 30	60. 26	60. 32	4740	4733	
17	Tu.	16. 30	16. 30	60. 34	60. 33	4730	4732	
18	W.	16. 29	16. 27	60. 28	60. 21	4737	4746	
19	Th.	16. 24	16. 20	60. 11	59. 57	4758	4775	
20	F.	16. 16	16. 12	59. 42	59. 26	4793	4812	
21	Sa.	16. 7	16. 2	59. 9	58. 51	4833	4855	
22	Su.	15. 57	15. 52	58. 33	58. 15	4877	4900	
23	M.	15. 47	15. 42	57. 57	57. 39	4922	4945	
24	Tu.	15. 37	15. 33	57. 21	57. 4	4967	4989	
25	W.	15. 28	15. 24	56. 47	56. 31	5010	5031	
26	Th.	15. 19	15. 16	56. 15	56. 0	5051	5071	
27	F.	15. 12	15. 8	55. 46	55. 33	5089	5106	
28	Sa.	15. 4	15. 1	55. 20	55. 8	5123	5138	
29	Su.	14. 58	14. 55	54. 56	54. 46	5154	5167	
30	M.	14. 53	14. 51	54. 37	54. 29	5179	5190	
31	Tu.	14. 49	14. 47	54. 22	54. 17	5199	5206	

[116] OCTOBER 1769.

Distances of ♄'s Center from Stars, and from ☉ east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1	Antares.	39. 32. 10	37. 59. 31	36. 27. 7	34. 54. 58
2		27. 18. 0	25. 47. 25	24. 17. 7	22. 47. 7
3	α Aquilæ.	71. 24. 50	70. 4. 53	68. 45. 15	67. 25. 57
4		60. 54. 33	59. 37. 26	58. 20. 45	57. 4. 31
5	Fomalhaut.	76. 29. 26	75. 10. 19	73. 51. 20	72. 32. 31
6		66. 0. 54	64. 43. 10	63. 25. 37	62. 8. 19
7	α Pegasi.	72. 2. 58	70. 36. 37	69. 10. 12	67. 43. 43
8		60. 30. 10	59. 3. 11	57. 36. 9	56. 9. 1
9		48. 52. 25	47. 24. 57	45. 57. 30	44. 30. 6
10		37. 14. 11	35. 47. 36	34. 21. 22	32. 55. 35
11	α Arietis.	65. 46. 1	64. 8. 40	62. 30. 57	60. 52. 51
12		52. 36. 55	50. 56. 40	49. 16. 5	47. 35. 10
13		39. 5. 54			
13	Aldebaran.	71. 56. 43	70. 12. 58	68. 28. 51	66. 44. 23
14		57. 57. 16	56. 10. 56	54. 24. 21	52. 37. 31
15		43. 40. 10	41. 52. 12	40. 4. 11	38. 16. 6
16		29. 15. 45	27. 28. 4	25. 40. 43	23. 53. 47
17	Pollux.	56. 43. 6	54. 54. 23	53. 5. 50	51. 17. 27
18		42. 18. 57	40. 32. 11	38. 45. 49	36. 59. 52
19	Regulus.	64. 1. 28	62. 13. 9	60. 25. 4	58. 37. 13
20		49. 41. 50	47. 55. 35	46. 9. 40	44. 24. 2
21		35. 40. 52	33. 57. 18	32. 14. 7	30. 31. 20
22		22. 4. 58			
19	The Sun.			120. 23. 45	118. 43. 4
20		110. 22. 59	108. 43. 40	107. 4. 37	105. 25. 48
21		97. 15. 37	95. 38. 21	94. 1. 20	92. 24. 35
22		84. 24. 54	82. 49. 46	81. 14. 53	79. 40. 16
23		71. 51. 0	70. 17. 55	68. 45. 4	67. 12. 29
24		59. 33. 9	58. 1. 59	56. 31. 4	55. 0. 21
25		47. 30. 14	46. 0. 52	44. 31. 42	43. 2. 46
31 N.1	α Aquilæ.	64. 2. 3 53. 46. 44	62. 43. 40	61. 25. 40	60. 8. 4

OCTOBER 1769. [117]

Distances of γ 's Center from Stars, and from $\odot$ east of her.							
Days.	Stars Names.	12 Hours.			15 Hours.		
		$\circ$	$'$	$''$	$\circ$	$'$	$''$
1	Antares.	33. 23. 3			31. 51. 23		
2		21. 17. 24					
2	α Aquilæ.	76. 47. 35			75. 26. 28		
3		66. 6. 57			64. 48. 17		
4		55. 48. 45					
4	Fomalhaut.	81. 47. 20			80. 27. 40		
5		71. 13. 51			69. 55. 20		
6		60. 51. 14					
6	α Pegasi.	77. 47. 48			76. 21. 41		
7		66. 17. 10			64. 50. 32		
8		54. 41. 49			53. 14. 32		
9		43. 2. 42			41. 35. 22		
10	α Arietis.	31. 30. 18					
10		72. 11. 57			70. 36. 0		
11		59. 14. 23			57. 35. 33		
12	Aldebaran.	45. 53. 55			44. 12. 21		
13		64. 59. 36			63. 14. 28		
14		50. 50. 27			49. 3. 8		
15		36. 27. 57			34. 39. 47		
16	Pollux.	22. 7. 22					
16		63. 58. 41			62. 9. 43		
17		49. 29. 14			47. 41. 14		
18	Regulus.	35. 14. 24					
18		71. 15. 48			69. 27. 40		
19		56. 49. 37			55. 2. 16		
20		42. 38. 44			40. 53. 44		
21	The Sun.	28. 49. 0			27. 7. 9		
19		117. 2. 36			115. 22. 21		
20		103. 47. 14			102. 8. 57		
21		90. 48. 6			89. 11. 54		
22		78. 5. 55			76. 31. 49		
23		65. 40. 8			64. 8. 2		
24	α Aquilæ.	53. 29. 53			51. 59. 39		
25		41. 34. 2			40. 5. 32		
30		69. 18. 57			67. 59. 16		
31		58. 50. 53			57. 34. 8		

[118] OCTOBER 1769:

Distances of γ 's Center from $\odot$, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
3	The Sun.	40. 51. 7	42. 13. 13	43. 35. 12	44. 57. 5
4		51. 45. 3	53. 6. 22	54. 27. 36	55. 48. 46
5		62. 33. 57	63. 54. 53	65. 15. 48	66. 36. 43
6		73. 21. 27	74. 42. 29	76. 3. 34	77. 24. 43
7		84. 11. 51	85. 33. 36	86. 55. 29	88. 17. 30
8		95. 9. 58	96. 33. 2	97. 56. 19	99. 19. 49
9		106. 20. 51	107. 45. 50	109. 11. 6	110. 36. 40
10		117. 49. 2	119. 16. 29	120. 44. 16	
8	Antares.	44. 39. 45	46. 10. 10	47. 40. 48	49. 11. 40
9		56. 49. 47	58. 22. 14	59. 54. 58	61. 28. 0
10		69. 17. 58			
10	β Capri- corni.	14. 28. 2	16. 3. 0	17. 38. 21	19. 14. 6
11		27. 18. 36	28. 56. 40	30. 35. 8	32. 13. 59
12		40. 34. 19			
12	α Aquilæ.	47. 17. 33	48. 39. 36	50. 2. 51	51. 27. 14
13		58. 44. 23	60. 14. 30	61. 45. 24	63. 17. 3
14		71. 5. 6	72. 40. 25	74. 16. 15	75. 52. 32
15	α Pegasi.	36. 12. 31	37. 52. 15	39. 32. 54	41. 14. 23
16		49. 51. 24	51. 36. 16	53. 21. 30	55. 7. 3
17		63. 58. 20			
17	α Arietis.	20. 23. 1	22. 8. 21	23. 54. 25	25. 41. 5
18		34. 39. 29	36. 27. 39	38. 15. 52	40. 4. 5
19		49. 4. 9			
19	Aldeba- ran.	16. 44. 8	18. 25. 35	20. 8. 4	21. 51. 20
20		30. 32. 51	32. 17. 30	34. 2. 8	35. 46. 41
21		44. 27. 37	46. 11. 20	47. 54. 51	49. 38. 10
22		58. 11. 28	59. 53. 27	61. 35. 11	63. 16. 41
23	Pollux.	30. 37. 9	32. 12. 40	33. 48. 26	35. 24. 21
24		43. 24. 51	45. 0. 55	46. 36. 56	48. 12. 50
25	Regulus.	19. 15. 15	20. 48. 45	22. 22. 33	23. 56. 35
26		31. 47. 40	33. 21. 49	34. 55. 54	36. 29. 54
27		44. 18. 19	45. 51. 39	47. 24. 50	48. 57. 54

O C T O B E R 1769. [119]					
Distances of γ 's Center from $\odot$, and from Stars west of her.					
Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "
3	The Sun.	46. 18. 52	47. 40. 33	49. 2. 8	50. 23. 38
4		57. 9. 53	58. 30. 57	59. 51. 59	61. 12. 59
5		67. 57. 38	69. 18. 33	70. 39. 29	72. 0. 27
6		78. 45. 57	80. 7. 16	81. 28. 42	82. 50. 13
7		89. 39. 40	91. 1. 58	92. 24. 27	93. 47. 7
8		100. 43. 32	102. 7. 29	103. 31. 41	104. 56. 9
9		112. 2. 30	113. 28. 39	114. 55. 8	116. 21. 55
7	Antares.	38. 40. 18	40. 9. 51	41. 39. 36	43. 9. 34
8		50. 42. 46	52. 14. 7	53. 45. 44	55. 17. 37
9		63. 1. 21	64. 35. 1	66. 9. 0	67. 43. 19
10	β Capri- corni.	20. 50. 13	22. 26. 44	24. 3. 38	25. 40. 55
11		33. 53. 15	35. 32. 55	37. 12. 58	38. 53. 27
12	α Aquilæ.	52. 52. 42	54. 19. 12	55. 46. 40	57. 15. 5
13		64. 49. 25	66. 22. 26	67. 56. 4	69. 30. 18
14		77. 29. 15			
14	α Pegasi.	29. 45. 20	31. 20. 3	32. 56. 16	34. 33. 49
15		42. 56. 36	44. 39. 29	46. 22. 57	48. 6. 56
16		56. 52. 54	58. 39. 0	60. 25. 18	62. 11. 45
17	α Arietis.	27. 28. 14	29. 15. 42	31. 3. 27	32. 51. 24
18		41. 52. 16	43. 40. 25	45. 28. 28	47. 16. 24
19	Aldeba- ran.	23. 35. 7	25. 19. 15	27. 3. 39	28. 48. 12
20		37. 31. 8	39. 15. 29	40. 59. 42	42. 43. 44
21		51. 21. 17	53. 4. 10	54. 46. 49	56. 29. 15
22		64. 57. 57			
22	Pollux.	24. 18. 55	25. 52. 48	27. 27. 10	29. 1. 58
23		37. 0. 24	38. 36. 30	40. 12. 37	41. 48. 45
24		49. 48. 37			
24	Regulus.	13. 7. 43	14. 38. 4	16. 9. 40	17. 42. 9
25		25. 30. 45	27. 4. 59	28. 39. 14	30. 13. 28
26		38. 3. 48	39. 37. 36	41. 11. 17	42. 44. 52
27		50. 30. 49			

[120] OCTOBER 1769.

Configurations of the SATELLITES of JUPITER
at 6 o' th' Clock in the Evening.

1				☉ 1 0 4 ²	.3	
2	1.0			☉	2.	4 ³
3		2.	1.	☉	3.	4 ⁴
4		3.	.2	☉	.1	4 ⁴
5		3.	1.	☉	.2	4.
6	2 ●	.3		☉	1.	4.
7	3.0	.2	.1	☉		4.
8				☉	2 ¹	4 ³
9	4 ●			☉	2.	3.
10	1 ●	4.	2.	☉	3.	
11		4.	.2 ³	☉	.1	
12		4.	3.	☉	1.	.2
13	4.	.3		☉	2.	.1
14	.4		2.	☉	.1	.3
15	2.0	.4		☉	1.	.3
16		.4	.1	☉	2.	.3
17		.4 ²		☉	1.	3.
18	3 ●	.2		☉	.1	.4

The Satellites of JUPITER cannot be observed from
this time to the end of the year, because of
his nearness to the Sun.

NOVEMBER 1769. [121]

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D. H. '
1	W.	All-Saints.	First Quarter — 6. 7. 20
2	Th.	[1 ret.	Full Moon — 13. 7. 51
3	F.	On morrow of All-Souls,	Last Quarter — 19. 23. 26
4	Sa.	[Powder-plot, 1605.	New Moon — 27. 20. 19
5	Su.	24th Sund. after Trinity.	Other Phenomena
6	M.	Leon. Mich. Ter: begins.	D.
7	Tu.	Duke of Cumb. born.	1. $\delta \lambda \pi$ diff. Lat. 9'.
8	W.		2. $\epsilon \lambda \mu$ π 13 ^h . 48'.
9	Th.		3. $\epsilon \pi$ π 16 ^h . 20'.
10	F.		5. $\epsilon \beta \nu$ 4 ^h . 6'.
11	Sa.	S. Martin. [ot S. M. 2 ret.	7. $\chi \beta \eta$ diff. Lat. 22'.
12	Su.	25th S. after Tr. On mor:	9. δ passes over $\odot$ Im.
13	M.	Britius.	7 ^h . 34'. δ 10 ^h .
14	Tu.		11'. Em: 12 ^h . 26'.
15	W.	Machutus.	δ 's Lat. at δ 7'.
16	Th.		36". N.
17	F.	Hugh, Bp. of Lincoln.	Corpor. δ ϕ θ π .
18	Sa.	In 8 days of S. Mar: 3 ret.	12. η Stationary.
19	Su.	26th Sund. after Trinity.	13. $\epsilon \delta \gamma$ 1 ^h . 14'.
20	M.	Edmund.	δ α π diff. Lat. 7'.
21	Tu.		15. $\epsilon \eta \Pi$ 21 ^h . 8'.
22	W.	Cecilia.	16. $\epsilon \mu \Pi$ 0 ^h . 8'.
23	Th.	S. Clement.	$\epsilon \zeta \Pi$ 15 ^h . 53'.
24	F.	[15 days of S. Mart. 4 ret.	18. ϕ Stationary.
25	Sa.	D. of GL born. Cath. In	ϵ 2 ad α $\odot$ Im. 14 ^h .
26	Su.	27th Sund. after Trinity.	51'. Em: 15 ^h . 17'.
27	M.		ϵ $\times$ $\mathcal{S}$ 16 ^h . 13'.
28	Tu.	Term ends:	19. ϵ θ Ω 10 ^h . 17'.
29	W.	[Wales born, 1719.	ϵ π Ω 19 ^h . 12'.
30	Th.	St. Andrew. Prs. Dow. of	21. $\odot$ enters $\mathcal{T}$ at 11 ^h . 13'.
			ϵ ϵ Ω Im. 14 ^h . 46'.
			Em. 15 ^h . 51'.
			27. $\odot$ eclipsed, invisible:
			29. ϵ 1 ad μ π 20 ^h . 12'.
			30. ϵ π π 22 ^h . 43'.

[122] NOVEMBER 1769.							
Days of the Month.	Days of the Week.	Sun's Longitude.	Sun's Right Asc. in Time.	Sun's Declin. South.	Equat. of Time Sub.	Diff.	
		s o ' "	h ' "	o ' "	' "	"	
1	W.	7. 9. 22. 35	14. 27. 54	14. 38. 4	16. 12. 4	0, 3	
2	Th.	7. 10. 22. 47	14. 31. 50	14. 57. 6	16. 12. 7	0, 6	
3	F.	7. 11. 23. 2	14. 35. 47	15. 15. 53	16. 12. 1	1, 4	
4	Sa.	7. 12. 23. 18	14. 39. 45	15. 34. 25	16. 10. 7	2, 2	
5	Su.	7. 13. 23. 35	14. 43. 44	15. 52. 42	16. 8. 5	3, 0	
6	M.	7. 14. 23. 54	14. 47. 43	16. 10. 42	16. 5. 5	3, 9	
7	Tu.	7. 15. 24. 15	14. 51. 44	16. 28. 25	16. 1. 6	4, 6	
8	W.	7. 16. 24. 36	14. 55. 45	16. 45. 54	15. 57. 0	5, 4	
9	Th.	7. 17. 24. 59	14. 59. 47	17. 3. 4	15. 51. 6	6, 3	
10	F.	7. 18. 25. 24	15. 3. 50	17. 19. 57	15. 45. 3	7, 2	
11	Sa.	7. 19. 25. 50	15. 7. 54	17. 36. 31	15. 38. 1	7, 9	
12	Su.	7. 20. 26. 17	15. 11. 58	17. 52. 47	15. 30. 2	8, 8	
13	M.	7. 21. 26. 46	15. 16. 3	18. 8. 45	15. 21. 4	9, 7	
14	Tu.	7. 22. 27. 16	15. 20. 10	18. 24. 23	15. 11. 7	10, 5	
15	W.	7. 23. 27. 48	15. 24. 17	18. 39. 42	15. 1. 2	11, 3	
16	Th.	7. 24. 28. 22	15. 28. 25	18. 54. 42	14. 49. 9	12, 2	
17	F.	7. 25. 28. 58	15. 32. 33	19. 9. 21	14. 37. 7	13, 0	
18	Sa.	7. 26. 29. 35	15. 36. 43	19. 23. 39	14. 24. 7	13, 9	
19	Su.	7. 27. 30. 14	15. 40. 54	19. 37. 36	14. 10. 8	14, 8	
20	M.	7. 28. 30. 55	15. 45. 5	19. 51. 12	13. 56. 0	15, 5	
21	Tu.	7. 29. 31. 38	15. 49. 17	20. 4. 27	13. 40. 5	16, 4	
22	W.	8. 0. 32. 22	15. 53. 30	20. 17. 19	13. 24. 1	17, 2	
23	Th.	8. 1. 33. 8	15. 57. 44	20. 29. 49	13. 6. 9	17, 9	
24	F.	8. 2. 33. 56	16. 1. 58	20. 41. 56	12. 49. 0	18, 8	
25	Sa.	8. 3. 34. 45	16. 6. 14	20. 53. 40	12. 30. 2	19, 5	
26	Su.	8. 4. 35. 36	16. 10. 30	21. 5. 1	12. 10. 7	20, 2	
27	M.	8. 5. 36. 28	16. 14. 47	21. 15. 58	11. 50. 5	21, 0	
28	Tu.	8. 6. 37. 22	16. 19. 4	21. 26. 30	11. 29. 5	21, 6	
29	W.	8. 7. 38. 16	16. 23. 23	21. 36. 38	11. 7. 9	22, 3	
30	Th.	8. 8. 39. 12	16. 27. 41	21. 46. 23	10. 45. 6	23, 0	

NOVEMBER 1769. [123]

Days of the Month.	Semidiameter of the Sun.	Time of D ^o passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	I II	I II	I II		S O I
1	16. 11, 2	1. 6, 9	2. 30, 4	9. 996218	8. 16. 40
7	16. 12, 7	1. 7, 6	2. 30, 8	9. 995565	8. 16. 20
13	16. 14, 0	1. 8, 4	2. 31, 3	9. 994964	8. 16. 1
19	16. 15, 2	1. 9, 0	2. 31, 7	9. 994440	8. 15. 42
25	16. 16, 3	1. 9, 7	2. 32, 1	9. 993984	8. 15. 23

The Eclipses of JUPITER's Satellites will not be visible this Month, JUPITER being too near the SUN.

[124] NOVEMBER 1769.

Days.	Heliocentric Longitude.	Heliocentric Latitude.	Geocentric Longitude.	Geocentric Latitude.	Declination.	Passage over Merid.
	s ° /	° /	s ° /	° /	° /	h /

MERCURY. inf. ♂ 9^d. 10^b gr. Elong. 27^d.

1	0. 1. 11	4. 55 S	7. 26. 4	2. 15 S	21. 29 S	1. 5
7	1. 3. 24	1. 30	7. 21. 2	0. 43	18. 44	0. 22
13	2. 10. 5	2. 53 N	7. 13. 26	1. 16 N	14. 41	23. 22
19	3. 17. 30	6. 10	7. 10. 26	2. 22	12. 43	22. 51
25	4. 21. 3	6. 58	7. 13. 32	2. 27	13. 35	22. 42

V E N U S.

1	4. 14. 4	2. 55 N	6. 5. 7	1. 39 N	0. 32 S	21. 54
7	4. 23. 50	3. 10	6. 12. 27	1. 44	3. 20	21. 57
13	5. 3. 35	3. 20	6. 19. 49	1. 47	6. 7	22. 0
19	5. 13. 20	3. 23	6. 27. 13	1. 47	8. 50	22. 3
25	5. 23. 4	3. 21	7. 4. 39	1. 43	11. 28	22. 6

M A R S.

1	6. 29. 32	0. 35 N	7. 3. 19	0. 22 N	12. 17 S	23. 36
7	7. 2. 26	0. 30	7. 7. 25	0. 19	13. 42	23. 28
13	7. 5. 20	0. 25	7. 11. 32	0. 15	15. 4	23. 20
19	7. 8. 17	0. 19	7. 15. 41	0. 12	16. 22	23. 11
25	7. 11. 15	0. 13	7. 19. 52	0. 8	17. 36	23. 2

J U P I T E R. ♂ 25^d. 8^b.

1	8. 2. 0	0. 47 N	7. 28. 33	0. 40 N	19. 13 S	1. 18
7	8. 2. 29	0. 47	7. 29. 51	0. 40	19. 30	1. 0
13	8. 2. 57	0. 46	8. 1. 10	0. 39	19. 48	0. 41
19	8. 3. 25	0. 46	8. 2. 30	0. 39	20. 3	0. 21
25	8. 3. 53	0. 45	8. 3. 51	0. 38	20. 20	0. 2

S A T U R N.

1	3. 25. 46	0. 11 N	4. 2. 1	0. 12 N	19. 57 N	17. 46
7	3. 26. 0	0. 12	4. 2. 6	0. 12	19. 55	17. 23
13	3. 26. 13	0. 13	4. 2. 8	0. 13	19. 55	16. 59
19	3. 26. 26	0. 13	4. 2. 6	0. 14	19. 57	16. 34
25	3. 26. 40	0. 14	4. 1. 59	0. 14	19. 58	16. 8

NOVEMBER 1769. [125]

Days of the Month.	Days of the Week.	Moon's Longitude at Noon.	Moon's Longitude at Midnight.	Moon's Latitude at Noon.	Moon's Latitude at Midn.
		S ° ' "	S ° ' "	° ' "	° ' "
1	W.	8. 11. 27. 10	8. 17. 21. 4	0. 20. 29 S	0. 11. 50 N
2	Th.	8. 23. 14. 9	8. 29. 7. 4	0. 43. 58 N	1. 15. 37
3	F.	9. 5. 0. 9	9. 10. 54. 4	1. 46. 31	2. 16. 19
4	Sa.	9. 16. 49. 17	9. 22. 46. 27	2. 44. 47	3. 11. 45
5	Su.	9. 28. 46. 7	10. 4. 49. 4	3. 36. 40	3. 59. 30
6	M.	10. 10. 55. 43	10. 17. 6. 47	4. 19. 50	4. 37. 23
7	Tu.	10. 23. 22. 56	10. 29. 44. 37	4. 51. 53	5. 3. 0
8	W.	11. 6. 12. 20	11. 12. 46. 31	5. 10. 31	5. 14. 8
9	Th.	11. 19. 27. 34	11. 26. 15. 34	5. 13. 38	5. 8. 36
10	F.	0. 3. 10. 36	0. 10. 12. 36	4. 59. 4	4. 44. 59
11	Sa.	0. 17. 21. 18	0. 24. 36. 9	4. 26. 12	4. 2. 54
12	Su.	1. 1. 56. 38	1. 9. 21. 50	3. 35. 21	3. 3. 52
13	M.	1. 16. 50. 49	1. 24. 22. 28	2. 28. 53	1. 51. 13
14	Tu.	2. 1. 55. 37	2. 9. 29. 10	1. 11. 21 N	0. 30. 11 N
15	W.	2. 17. 1. 48	2. 24. 32. 31	0. 11. 28 S	0. 52. 50 S
16	Th.	3. 2. 0. 23	3. 9. 24. 23	1. 32. 54	2. 11. 10
17	F.	3. 16. 44. 3	3. 23. 58. 42	2. 46. 54	3. 19. 28
18	Sa.	4. 1. 7. 59	4. 8. 11. 42	3. 48. 35	4. 13. 46
19	Su.	4. 15. 9. 39	4. 22. 1. 55	4. 34. 54	4. 51. 45
20	M.	4. 28. 48. 40	5. 5. 29. 56	5. 4. 17	5. 12. 28
21	Tu.	5. 12. 6. 2	5. 18. 37. 10	5. 16. 24	5. 16. 13
22	W.	5. 25. 3. 47	6. 1. 26. 2	5. 12. 0	5. 3. 55
23	Th.	6. 7. 44. 17	6. 13. 58. 55	4. 52. 21	4. 37. 20
24	F.	6. 20. 10. 16	6. 26. 18. 37	4. 19. 13	3. 58. 16
25	Sa.	7. 2. 24. 15	7. 8. 27. 31	3. 34. 36	3. 8. 46
26	Su.	7. 14. 28. 40	7. 20. 27. 54	2. 40. 59	2. 11. 31
27	M.	7. 26. 25. 36	8. 2. 21. 53	1. 40. 43	1. 8. 57
28	Tu.	8. 8. 17. 8	8. 14. 11. 32	0. 36. 27 S	0. 3. 42 S
29	W.	8. 20. 5. 20	8. 25. 58. 46	0. 29. 4 N	1. 1. 30 N
30	Th.	9. 1. 52. 12	9. 7. 45. 54	1. 33. 16	2. 4. 2

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Days of the Month.	Days of the Week.	D's Age.	D's Passage over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's Declinat. at Noon.	D's Declin. at Midn.
			h /	° /	° /	° /	° /
1	W.	4	2. 16	249. 52	256. 16	22. 31 S	22. 40 S
2	Th.	5	3. 5	262. 40	269. 3	22. 34	22. 12
3	F.	6	3. 53	275. 23	281. 40	21. 36	20. 45
4	Sa.	7	4. 41	287. 53	294. 2	19. 41	18. 24
5	Su.	8	5. 27	300. 8	306. 10	16. 54	15. 13
6	M.	9	6. 12	312. 10	318. 8	13. 21	11. 19
7	Tu.	10	6. 57	324. 6	330. 4	9. 9	6. 51
8	W.	11	7. 43	336. 4	342. 7	4. 26 S	1. 56 S
9	Th.	12	8. 30	348. 16	354. 31	0. 38 N	3. 14 N
10	F.	13	9. 19	0. 55	7. 30	5. 50	8. 25
11	Sa.	14	10. 12	14. 16	21. 16	10. 55	13. 19
12	Su.	15	11. 8	28. 29	35. 56	15. 32	17. 32
13	M.	16	12. 8	43. 38	51. 31	19. 16	20. 41
14	Tu.	17	13. 12	59. 34	67. 44	21. 44	22. 24
15	W.	18	14. 16	75. 56	84. 5	22. 39	22. 29
16	Th.	19	15. 17	92. 10	100. 4	21. 54	20. 57
17	F.	20	16. 16	107. 47	115. 16	19. 40	18. 4
18	Sa.	21	17. 10	122. 30	129. 29	16. 13	14. 9
19	Su.	22	18. 0	136. 15	142. 49	11. 55	9. 35
20	M.	23	18. 47	149. 11	155. 24	7. 9	4. 40 N
21	Tu.	24	19. 32	161. 29	167. 29	2. 9 N	0. 21 S
22	W.	25	20. 16	173. 24	179. 17	2. 49 S	5. 13
23	Th.	26	21. 1	185. 10	191. 3	7. 33	9. 47
24	F.	27	21. 45	196. 58	202. 55	11. 53	13. 52
25	Sa.	28	22. 31	208. 56	215. 1	15. 41	17. 19
26	Su.	29	23. 19	221. 10	227. 24	18. 46	20. 0
27	M.	1	0	233. 41	240. 2	21. 1	21. 47
28	Tu.	2	0. 7	246. 26	252. 50	22. 19	22. 36
29	W.	3	0. 55	259. 15	265. 39	22. 37	22. 23
30	Th.	4	1. 44	272. 1	278. 19	21. 54	21. 11

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Days of the Month.	Days of the Week.	Semid ^r . D at Noon.	Semid ^r . D at Mid-night.	Hor. Par. D at Noon.	Hor. Par. D at Midnight.	Prop ^r . Lo- gar. at Noon.	Prop ^r . Lo- gar. at Midn.
		1 11	1 11	1 11	1 11		
1	W.	14. 45	14. 46	54. 13	54. 10	5211	5215
2	Th.	14. 46	14. 46	54. 10	54. 11	5215	5214
3	F.	14. 47	14. 48	54. 15	54. 20	5209	5202
4	Sa.	14. 50	14. 53	54. 28	54. 38	5191	5178
5	Su.	14. 57	15. 1	54. 51	55. 6	5161	5141
6	M.	15. 6	15. 11	55. 24	55. 43	5118	5093
7	Tu.	15. 17	15. 24	56. 5	56. 30	5064	5032
8	W.	15. 31	15. 38	56. 55	57. 23	5000	4965
9	Th.	15. 46	15. 54	57. 51	58. 19	4930	4895
10	F.	16. 2	16. 9	58. 48	59. 16	4859	4824
11	Sa.	16. 16	16. 23	59. 43	60. 7	4792	4763
12	Su.	16. 29	16. 34	60. 29	60. 47	4736	4715
13	M.	16. 38	16. 40	61. 1	61. 11	4698	4686
14	Tu.	16. 42	16. 42	61. 16	61. 16	4680	4680
15	W.	16. 41	16. 39	61. 12	61. 4	4685	4694
16	Th.	16. 35	16. 31	60. 52	60. 36	4709	4728
17	F.	16. 26	16. 20	60. 17	59. 55	4751	4777
18	Sa.	16. 14	16. 7	59. 33	59. 8	4804	4834
19	Su.	16. 0	15. 53	58. 44	58. 19	4864	4895
20	M.	15. 47	15. 40	57. 54	57. 30	4926	4956
21	Tu.	15. 34	15. 28	57. 7	56. 45	4985	5013
22	W.	15. 22	15. 17	56. 24	56. 5	5040	5064
23	Th.	15. 12	15. 8	55. 47	55. 31	5087	5108
24	F.	15. 4	15. 0	55. 16	55. 3	5128	5145
25	Sa.	14. 57	14. 54	54. 51	54. 40	5161	5175
26	Su.	14. 51	14. 49	54. 31	54. 23	5187	5198
27	M.	14. 47	14. 46	54. 16	54. 11	5207	5214
28	Tu.	14. 45	14. 44	54. 7	54. 4	5219	5223
29	W.	14. 44	14. 44	54. 3	54. 2	5225	5226
30	Th.	14. 44	14. 45	54. 4	54. 7	5223	5219

[128] NOVEMBER 1769.

Distances of γ 's Center from Stars, and from $\odot$ east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1	Fomal- haut.	79. 46. 58	78. 27. 29	77. 8. 10	75. 49. 1
2		69. 15. 59	67. 57. 57	66. 40. 8	65. 22. 34
3		58. 58. 49			
3	α Pegasi.	75. 32. 21	74. 6. 35	72. 40. 50	71. 15. 5
4		64. 6. 13	62. 40. 23	61. 14. 32	59. 48. 40
5		52. 39. 14	51. 13. 18	49. 47. 22	48. 21. 28
6		41. 12. 57	39. 47. 35	38. 22. 25	36. 57. 29
7	α Arietis.	29. 58. 45			
7		70. 32. 59	68. 59. 6	67. 24. 54	65. 50. 22
8		57. 52. 30	56. 15. 52	54. 38. 52	53. 1. 29
9	Aldeba- ran.	44. 49. 3			
9		77. 44. 59	76. 4. 42	74. 23. 59	72. 42. 49
10		64. 10. 34	62. 26. 50	60. 42. 41	58. 58. 7
11		50. 9. 20	48. 22. 28	46. 35. 16	44. 47. 46
12		35. 46. 8	33. 57. 12	32. 8. 10	30. 19. 6
13	Pollux.	21. 15. 46			
13		63. 6. 20	61. 15. 25	59. 24. 23	57. 33. 17
14		48. 17. 54	46. 27. 1	44. 36. 23	42. 45. 59
15	Regulus.	33. 39. 16			
15		69. 36. 33	67. 43. 47	65. 51. 10	63. 58. 43
16		54. 39. 42	52. 48. 42	50. 58. 2	49. 7. 41
17		40. 1. 12	38. 13. 7	36. 25. 28	34. 38. 18
18	Spica μ	25. 50. 28	24. 6. 47	22. 23. 52	20. 41. 50
19		65. 23. 35	63. 40. 19	61. 57. 25	60. 14. 55
20		51. 47. 51			
18	The Sun.	115. 18. 0	113. 39. 11	112. 0. 45	110. 22. 42
19		102. 18. 11	100. 42. 25	99. 7. 2	97. 32. 0
20		89. 42. 19	88. 9. 28	86. 36. 58	85. 4. 48
21		77. 28. 51	75. 58. 38	74. 28. 42	72. 59. 4
22		65. 35. 2	64. 7. 3	62. 39. 19	61. 11. 50
23		53. 57. 57	52. 31. 50	51. 5. 54	49. 40. 11
24		42. 34. 21	41. 9. 42	39. 45. 13	
30	α Pegasi.	78. 33. 44	77. 7. 51	75. 42. 0	74. 16. 11

NOVEMBER 1769. [129]

Distances of ♃'s Center from Stars, and from ☉ east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	Fomal- haut.	74. 30. 2	73. 11. 14	71. 52. 37	70. 34. 12
2		64. 5. 15	62. 48. 12	61. 31. 26	60. 14. 58
3	α Pegasi.	69. 49. 20	68. 23. 34	66. 57. 48	65. 32. 1
4		58. 22. 47	56. 56. 54	55. 31. 1	54. 5. 8
5		46. 55. 37	45. 29. 48	44. 4. 5	42. 38. 28
6		35. 32. 51	34. 8. 33	32. 44. 42	31. 21. 24
7	α Arietis.	64. 15. 29	62. 40. 16	61. 4. 42	59. 28. 46
8		51. 23. 45	49. 45. 38	48. 7. 9	46. 28. 17
9	Aldeba- ran.	71. 1. 13	69. 19. 12	67. 36. 45	65. 53. 52
10		57. 13. 9	55. 27. 46	53. 42. 0	51. 55. 51
11		42. 59. 57	41. 11. 50	39. 23. 29	37. 34. 54
12		28. 30. 3	26. 41. 4	24. 52. 17	23. 3. 49
13	Pollux.	55. 42. 9	53. 50. 59	51. 59. 53	50. 8. 52
14		40. 55. 50	39. 6. 3	37. 16. 39	35. 27. 43
15	Regulus.	62. 6. 27	60. 14. 23	58. 22. 34	56. 31. 0
16		47. 17. 40	45. 27. 58	43. 38. 39	41. 49. 44
17		32. 51. 37	31. 5. 27	29. 19. 51	27. 34. 50
18		19. 0. 45			
18	Spica ♏	72. 20. 28	70. 35. 40	68. 51. 15	67. 7. 13
19		58. 32. 47	56. 51. 1	55. 9. 36	53. 28. 33
17	The Sun.		120. 16. 40	118. 36. 45	116. 57. 11
18		108. 45. 1	107. 7. 44	105. 30. 51	103. 54. 20
19		95. 57. 21	94. 23. 3	92. 49. 7	91. 15. 32
20		83. 32. 58	82. 1. 27	80. 30. 16	78. 59. 24
21		71. 29. 43	70. 0. 38	68. 31. 50	67. 3. 18
22		59. 44. 36	58. 17. 36	56. 50. 50	55. 24. 17
23		48. 14. 39	46. 49. 19	45. 24. 9	43. 59. 10
29	α Pegasi.	84. 17. 31	82. 51. 32	81. 25. 34	79. 59. 38
30		72. 50. 22	71. 24. 34	6 58. 47	68. 33. 2

[130] NOVEMBER 1769.

Distances of γ 's Center from $\odot$, and from Stars west of her.

Days	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
2	The Sun.	42. 51. 40	44. 12. 28	45. 33. 16	46. 54. 5
3		53. 38. 20	54. 59. 18	56. 20. 19	57. 41. 24
4		64. 27. 55	65. 49. 28	67. 11. 10	68. 33. 0
5		75. 24. 1	76. 47. 6	78. 10. 6	79. 33. 18
6		86. 32. 25	87. 56. 58	89. 21. 48	90. 46. 55
7		97. 56. 57	99. 23. 55	100. 51. 14	102. 18. 54
8		109. 42. 41	111. 12. 36	112. 42. 55	114. 13. 39
6	β Capri- corni.	10. 3. 54	11. 35. 47	13. 8. 0	14. 40. 32
7		22. 28. 7	24. 2. 38	25. 37. 30	27. 12. 43
8		35. 14. 23	36. 51. 53	38. 29. 47	40. 8. 7
9	α Aquilæ.	53. 42. 28	55. 7. 56	56. 34. 19	58. 1. 37
10		65. 30. 43	67. 2. 49	68. 35. 35	70. 9. 2
11		78. 5. 28			
11	α Pegasi.	30. 20. 15	31. 55. 20	33. 31. 55	35. 9. 52
12		43. 36. 45	45. 20. 10	47. 4. 49	48. 50. 7
13		57. 44. 45			
13	α Arietis.	14. 24. 6	16. 6. 2	17. 50. 13	19. 36. 8
14		28. 41. 4	30. 31. 53	32. 23. 1	34. 14. 23
15		43. 33. 14			
15	Aldeba- ran.	11. 41. 41	13. 19. 48	15. 1. 11	16. 44. 58
16		25. 40. 17	27. 28. 43	29. 17. 17	31. 5. 52
17		40. 7. 40	41. 55. 30	43. 43. 6	45. 30. 26
18		54. 22. 41	56. 8. 11	57. 53. 20	59. 38. 8
19		68. 16. 49			
19	Pollux.	27. 28. 19	29. 5. 1	30. 41. 57	32. 19. 5
20		40. 25. 40	42. 2. 48	43. 39. 48	45. 16. 38
21		53. 18. 9			
21	Regulus.	16. 28. 15	18. 0. 55	19. 34. 2	21. 7. 31
22		28. 56. 48	30. 30. 36	32. 4. 18	33. 37. 53
23		41. 23. 52	42. 56. 37	44. 29. 14	46. 1. 42
24		53. 41. 51	55. 13. 27	56. 44. 54	58. 16. 14
25		65. 50. 55			
25	Spica η	11. 51. 24	13. 21. 0	14. 50. 44	16. 20. 34
26		23. 49. 57			

NOVEMBER 1769. [131]

Distances of γ 's Center from $\odot$, and from Stars west of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	The Sun.		38. 49. 14	40. 10. 3	41. 30. 52
2		48. 14. 54	49. 35. 43	50. 56. 33	52. 17. 25
3		59. 2. 32	60. 23. 44	61. 45. 2	63. 6. 25
4		69. 54. 58	71. 17. 3	72. 39. 18	74. 1. 43
5		80. 56. 41	82. 20. 16	83. 44. 5	85. 8. 8
6		92. 12. 18	93. 37. 59	95. 4. 0	96. 30. 19
7		103. 46. 55	105. 15. 17	106. 44. 2	108. 13. 10
8		115. 44. 47	117. 16. 20	118. 48. 20	120. 20. 46
6	β Capri- corni.	16. 13. 23	17. 46. 34	19. 20. 5	20. 53. 56
7		28. 48. 18	30. 24. 15	32. 0. 34	33. 37. 17
8		41. 46. 51			
8	α Aquilæ.	48. 11. 9	49. 32. 20	50. 54. 38	52. 18. 1
9		59. 29. 51	60. 58. 54	62. 28. 43	63. 59. 19
10		71. 43. 8	73. 17. 51	74. 53. 10	76. 29. 3
11	α Pegasi.	36. 49. 5	38. 29. 25	40. 10. 48	41. 53. 6
12		50. 36. 1	52. 22. 30	54. 9. 29	55. 56. 56
13	α Arietis.	21. 23. 23	23. 11. 41	25. 0. 50	26. 50. 40
14		36. 5. 57	37. 57. 40	39. 49. 29	41. 41. 21
15	Aldeba- ran.	18. 30. 22	20. 16. 53	22. 4. 12	23. 52. 4
16		32. 54. 26	34. 42. 58	36. 31. 23	38. 19. 37
17		47. 17. 29	49. 4. 15	50. 50. 42	52. 36. 51
18		61. 22. 36	63. 6. 42	64. 50. 27	66. 33. 49
19	Pollux.	33. 56. 21	35. 33. 42	37. 11. 5	38. 48. 25
20		46. 53. 19	48. 29. 50	50. 6. 9	51. 42. 16
21	Regulus.	22. 41. 14	24. 15. 5	25. 49. 1	27. 22. 56
22		35. 11. 21	36. 44. 41	38. 17. 53	39. 50. 57
23		47. 34. 1	49. 6. 11	50. 38. 13	52. 10. 6
24		59. 47. 26	61. 18. 30	62. 49. 26	64. 20. 14
25	Spica α	17. 50. 28	19. 20. 23	20. 50. 17	22. 20. 9

[132] NOVEMBER 1769.

JUPITER'S Satellites will not be visible this Month, being
too near the SUN.

D E C E M B E R 1769. [133]

Days of the Month.	Days of the Week.	Sundays, Holidays, &c.	Phases of the Moon.
			D. H. '
			First Quarter — 5. 23. 46
			Full Moon — 12. 18. 28
			Last Quarter — 19. 12. 35
			New Moon — 27. 15. 58
			Other Phenomena.
			D.
1	F.		1. ☿ ♄ ☾ diff. Lat. 3'.
2	Sa.		2. ♀ 4 ad ☿ ☾ diff. Lat. 26'.
3	Su.	Advent-Sunday.	☿ β ♄ 10 ^h . 38'.
4	M.		5. ☿ λ ☾ diff. Lat. 6'.
5	Tu.		8. ♀ 4 ad ☿ ☾ diff. Lat. 51'.
6	W.	Nicholas.	☿ β ♄ diff. Lat. 7'.
7	Th.		9. ☿ β ♄ diff. Lat. 63'.
8	F.	Conception of V. Mary.	☿ ♄ ♄ diff. Lat. 40'.
9	Sa.		10. ☿ ♄ ♄ Im. 13 ^h . 10'.
10	Su.	2d Sunday in Advent.	Em. 14 ^h . 6'.
11	M.		12. ☿ visibly eclipsed.
12	Tu.		13. ☿ ♄ ♄ 7 ^h . 58'.
13	W.	Lucy.	☿ μ ♄ 10 ^h . 53'.
14	Th.		14. ☿ ☿ ♄ 2 ^h . 12'.
15	F.	[ends.	15. ♀ β ♄ diff. Lat. 11'.
16	Sa.	O Sapient. Camb. Term	16. ♀ ♄ ♄ diff. Lat. 30'.
17	Su.	3d Su. in Ad. Oxf. Term	☿ 2 ad α ☿ c ^h . 28'.
18	M.	[ends.	☿ × ☿ 4 ^h . 41'.
19	Tu.		☿ o Ω 18 ^h . 15 ^h .
20	W.		17. ☿ π Ω 2 ^h . 51'.
21	Th.	St. Thomas.	18. ☿ o Ω 23 ^h . 6'.
22	F.		20. ☉ enters ♄ at 23 ^h .
23	Sa.		29'.
24	Su.	4th Sunday in Advent.	23. ☿ ♄ ♀ diff. Lat. 20'.
25	M.	Christmas-Day.	☿ ♄ ☿ diff. Lat. 45'.
26	Tu.	St. Stephen.	☿ 1 ad ♄ ☾ 12 ^h . 24'.
27	W.	St. John.	24. ☿ ♄ ♄ 11 ^h . 46'.
28	Th.	Innocents.	28. ☿ π ♄ 4 ^h . 34'.
29	F.		29. ☿ β ♄ 16 ^h . 19'.
30	Sa.	[Silvester.	
31	Su.	Sunday after Christmas.	

[134] DECEMBER 1769.

Days of the Month.	Days of the Week.	Sun's Longitude.				Sun's Right Asc. in Time.			Sun's Declin. South.			Equat. of Time Sub.		Diff.
		s	o	1	//	h	1	//	o	1	//	1	//	
1	F.	8.	9.	40.	9	16.	32.	1	21.	55.	39	10.	22, 6	23, 6
2	Sa.	8.	10.	41.	6	16.	36.	21	22.	4.	33	9.	59, 0	23, 1
3	Su.	8.	11.	42.	4	16.	40.	42	22.	13.	0	9.	34, 9	24, 7
4	M.	8.	12.	43.	3	16.	45.	3	22.	21.	1	9.	10, 2	24, 2
5	Tu.	8.	13.	44.	3	16.	49.	25	22.	28.	36	8.	45, 0	25, 8
6	W.	8.	14.	45.	3	16.	53.	48	22.	35.	45	8.	19, 2	25, 3
7	Th.	8.	15.	46.	4	16.	58.	10	22.	42.	27	7.	52, 9	26, 6
8	F.	8.	16.	47.	5	17.	2.	34	22.	48.	42	7.	26, 3	27, 1
9	Sa.	8.	17.	48.	7	17.	6.	57	22.	54.	30	6.	59, 2	27, 5
10	Su.	8.	18.	49.	10	17.	11.	22	22.	59.	51	6.	31, 7	27, 9
11	M.	8.	19.	50.	12	17.	15.	46	23.	4.	44	6.	3, 8	28, 2
12	Tu.	8.	20.	51.	16	17.	20.	11	23.	9.	10	5.	35, 6	28, 5
13	W.	8.	21.	52.	20	17.	24.	36	23.	13.	9	5.	7, 1	28, 9
14	Th.	8.	22.	53.	25	17.	29.	2	23.	16.	39	4.	38, 2	29, 1
15	F.	8.	23.	54.	30	17.	33.	27	23.	19.	42	4.	9, 1	29, 3
16	Sa.	8.	24.	55.	37	17.	37.	53	23.	22.	17	3.	39, 8	29, 5
17	Su.	8.	25.	56.	44	17.	42.	19	23.	24.	23	3.	10, 3	29, 8
18	M.	8.	26.	57.	51	17.	46.	46	23.	26.	2	2.	40, 5	30, 0
19	Tu.	8.	27.	59.	0	17.	51.	12	23.	27.	12	2.	10, 5	30, 0
20	W.	8.	29.	0.	9	17.	55.	39	23.	27.	54	1.	40, 5	30, 1
21	Th.	9.	0.	1.	19	18.	0.	6	23.	28.	7	1.	10, 4	30, 1
22	F.	9.	1.	2.	30	18.	4.	33	23.	27.	53	0.	40, 3	30, 1
23	Sa.	9.	2.	3.	41	18.	8.	59	23.	27.	9	0.	10, 2	30, 1
24	Su.	9.	3.	4.	53	18.	13.	26	23.	25.	58	Ad: 19, 9		30, 1
25	M.	9.	4.	6.	5	18.	17.	53	23.	24.	18	0.	50, 0	30, 0
26	Tu.	9.	5.	7.	18	18.	22.	19	23.	22.	10	1.	20, 0	29, 8
27	W.	9.	6.	8.	31	18.	26.	46	23.	19.	34	1.	49, 8	29, 6
28	Th.	9.	7.	9.	44	18.	31.	12	23.	16.	29	2.	19, 4	29, 4
29	F.	9.	8.	10.	57	18.	35.	38	23.	12.	57	2.	48, 8	29, 2
30	Sa.	9.	9.	12.	10	18.	40.	4	23.	8.	56	3.	18, 0	28, 9
31	Su.	9.	10.	13.	23	18.	44.	29	23.	4.	28	3.	46, 9	

D E C E M B E R 1769 [135]

Days of the Month.	Semidia- meter of the Sun.	Time of D ^s passing the Meridian.	Hourly Motion of the Sun.	Logarithm of the Sun's Distance.	Place of the Moon's Node.
	° "	° "	° "		° ° '
1	16. 17, 2	1. 10, 2	2. 32, 3	9. 993575	8. 15. 4
7	16. 18, 0	1. 10, 7	2. 32, 5	9. 993220	8. 14. 45
13	16. 18, 5	1. 11, 0	2. 32, 7	9. 992943	8. 14. 26
19	16. 19, 0	1. 11, 1	2. 32, 8	9. 992772	8. 14. 7
25	16. 19, 2	1. 11, 1	2. 32, 9	9. 992684	8. 13. 48

The Eclipses of JUPITER's Satellites will not be visible
this Month, JUPITER being too near the SUN.

[136] D E C E M B E R 1769.

Days.	Heliocen- tric Lon- gitude.	Heliocen- tric Lati- tude.	Geocen- tric Lon- gitude.	Geocen- tric Lati- tude.	Declina- tion.	Passage over Merid.
	° ° '	° ° '	° ° '	° ° '	° ° '	h ° '

M E R C U R Y.

1	5. 19. 3	5. 51 N	7. 20. 10	1. 59 N	15. 54 S	22. 42
7	6. 12. 13	3. 52	7. 28. 19	1. 18	18. 33	22. 49
13	7. 2. 5	1. 40	8. 7. 5	0. 33	20. 59	22. 59
19	7. 19. 54	0. 30 S	8. 16. 8	0. 10 S	22. 55	23. 10
25	8. 6. 38	2. 30	8. 25. 22	0. 49	24. 12	23. 24

V E N U S.

1	6. 2. 48	3. 13 N	7. 12. 7	1. 37 N	13. 57 S	22. 9
7	6. 12. 29	3. 0	7. 19. 35	1. 29	16. 13	22. 13
13	6. 22. 9	2. 41	7. 27. 5	1. 18	18. 15	22. 17
19	7. 1. 47	2. 18	8. 4. 34	1. 6	20. 0	22. 21
25	7. 11. 24	1. 51	8. 12. 4	0. 53	21. 24	22. 26

M A R S.

1	7. 14. 14	0. 8 N	7. 24. 4	0. 5 N	18. 44 S	22. 53
7	7. 17. 16	0. 2	7. 28. 17	0. 1	19. 47	22. 44
13	7. 20. 19	0. 4 S	8. 2. 32	0. 3 S	20. 44	22. 35
19	7. 23. 24	0. 10	8. 6. 48	0. 6	21. 34	22. 27
25	7. 26. 30	0. 16	8. 11. 6	0. 10	22. 18	22. 19

J U P I T E R.

1	8. 4. 22	0. 44 N	8. 5. 11	0. 38 N	20. 34 S	23. 38
7	8. 4. 50	0. 44	8. 6. 32	0. 37	20. 49	23. 18
13	8. 5. 19	0. 43	8. 7. 52	0. 37	21. 2	22. 57
19	8. 5. 47	0. 43	8. 9. 11	0. 37	21. 14	22. 36
25	8. 6. 15	0. 42	8. 10. 29	0. 36	21. 27	22. 15

S A T U R N.

1	3. 26. 53	0. 14 N	4. 1. 49	0. 15 N	20. 2 N	15. 42
7	3. 27. 6	0. 15	4. 1. 35	0. 16	20. 6	15. 14
13	3. 27. 20	0. 15	4. 1. 17	0. 17	20. 10	14. 47
19	3. 27. 33	0. 16	4. 0. 56	0. 18	20. 15	14. 19
25	3. 27. 47	0. 17	4. 0. 33	0. 18	20. 21	13. 51

D E C E M B E R 1769. [137]						
Days of the Month.	Days of the Week.	Moon's Lon- gitude at Noon.	Moon's Lon- gitude at Midnight.	Moon's La- titude at Noon.	Moon's Latitude at Midnight.	
		S ° ' "	S ° ' "	° ' "	° ' "	° ' "
1	F.	9. 13. 40. 13	9. 19. 35. 31	2. 33. 37 N	3. 1. 36 N	
2	Sa.	9. 25. 32. 16	10. 1. 30. 49	3. 27. 43	3. 51. 43	
3	Su.	10. 7. 31. 37	10. 13. 35. 11	4. 13. 16	4. 32. 14	
4	M.	10. 19. 41. 56	10. 25. 52. 33	4. 48. 13	5. 1. 5	
5	Tu.	11. 2. 7. 22	11. 8. 26. 57	5. 10. 30	5. 16. 18	
6	W.	11. 14. 51. 47	11. 21. 22. 17	5. 18. 19	5. 16. 15	
7	Th.	11. 27. 58. 51	0. 4. 41. 51	5. 10. 1	4. 59. 31	
8	F.	0. 11. 31. 31	0. 18. 28. 24	4. 44. 36	4. 25. 20	
9	Sa.	0. 25. 31. 17	1. 2. 41. 20	4. 1. 45	3. 34. 2	
10	Su.	1. 9. 57. 39	1. 17. 19. 52	3. 2. 31	2. 27. 30	
11	M.	1. 24. 47. 21	2. 2. 19. 41	1. 49. 38	1. 9. 28 N	
12	Tu.	2. 9. 54. 14	2. 17. 31. 29	0. 27. 48 N	0. 14. 33 S	
13	W.	2. 25. 9. 38	3. 2. 47. 29	0. 56. 44 S	1. 37. 51	
14	Th.	3. 10. 23. 31	3. 17. 56. 46	2. 17. 1	2. 53. 34	
15	F.	3. 25. 25. 58	4. 2. 50. 17	3. 26. 46	3. 56. 6	
16	Sa.	4. 10. 8. 48	4. 17. 21. 11	4. 21. 12	4. 41. 43	
17	Su.	4. 24. 26. 43	5. 1. 25. 28	4. 57. 37	5. 8. 50	
18	M.	5. 8. 17. 9	5. 15. 2. 6	5. 15. 23	5. 17. 23	
19	Tu.	5. 21. 40. 26	5. 28. 12. 22	5. 15. 11	5. 8. 54	
20	W.	6. 4. 38. 27	6. 10. 59. 24	4. 58. 46	4. 45. 6	
21	Th.	6. 17. 14. 41	6. 23. 25. 53	4. 28. 14	4. 8. 22	
22	F.	6. 29. 33. 11	7. 5. 37. 6	3. 45. 53	3. 21. 6	
23	Sa.	7. 11. 38. 5	7. 17. 36. 48	2. 54. 14	2. 25. 37	
24	Su.	7. 23. 33. 30	7. 29. 28. 49	1. 55. 38	1. 24. 31	
25	M.	8. 5. 23. 10	8. 11. 16. 49	0. 52. 33 S	0. 20. 7 S	
26	Tu.	8. 17. 10. 16	8. 23. 3. 47	0. 12. 27 N	0. 44. 51 N	
27	W.	8. 28. 57. 32	9. 4. 51. 53	1. 16. 51	1. 48. 1	
28	Th.	9. 10. 47. 9	9. 16. 43. 29	2. 18. 3	2. 46. 41	
29	F.	9. 22. 41. 10	9. 28. 40. 17	3. 13. 33	3. 38. 21	
30	Sa.	10. 4. 41. 15	10. 10. 44. 12	4. 0. 53	20. 53	
31	Su.	10. 16. 49. 22	10. 22. 57. 9	4. 37. 54	4. 51. 55	

[183] D E C E M B E R 1769.							
Days of the Month.	Days of the Week.	D's Age.	D's Pals- age over Merid.	D's Right Ascen. at Noon.	D's Right Asc. at Midn.	D's De- clination at Noon.	D's De- clination at Midn.
			h /	o /	o /	o /	o
1	F.	5	2. 31	284. 34	290. 45	20. 13 S	19. 2 S
2	Sa.	6	3. 17	296. 50	302. 52	17. 39	16. 5
3	Su.	7	4. 2	308. 50	314. 44	14. 20	12. 25
4	M.	8	4. 46	320. 35	326. 25	10. 22	8. 11
5	Tu.	9	5. 29	332. 15	338. 7	5. 54	3. 31 S
6	W.	10	6. 14	344. 1	350. 0	1. 4 S	1. 25 N
7	Th.	11	7. 0	356. 5	2. 19	3. 56 N	6. 27
8	F.	12	7. 48	8. 44	15. 19	8. 55	11. 20
9	Sa.	13	8. 41	22. 8	29. 13	13. 38	15. 46
10	Su.	14	9. 38	36. 33	44. 8	17. 42	19. 23
11	M.	15	10. 39	51. 57	59. 59	20. 46	21. 47
12	Tu.	16	11. 43	68. 11	76. 28	22. 25	22. 39
13	W.	17	12. 47	84. 46	93. 0	22. 26	21. 49
14	Th.	18	13. 49	101. 6	109. 2	20. 47	19. 24
15	F.	19	14. 47	116. 44	124. 12	17. 41	15. 43
16	Sa.	20	15. 41	131. 24	138. 21	13. 32	11. 11
17	Su.	21	16. 30	145. 5	151. 37	8. 43	6. 11
18	M.	22	17. 17	157. 58	164. 11	3. 36 N	1. 1 N
19	Tu.	23	18. 3	170. 17	176. 18	1. 31 S	4. 0 S
20	W.	24	18. 47	182. 16	188. 13	6. 25	8. 43
21	Th.	25	19. 32	194. 9	200. 6	10. 54	12. 57
22	F.	26	20. 17	206. 6	212. 9	14. 51	16. 34
23	Sa.	27	21. 3	218. 15	224. 25	18. 6	19. 26
24	Su.	28	21. 51	230. 39	236. 57	20. 33	21. 26
25	M.	29	22. 39	243. 17	249. 40	22. 5	22. 30
26	Tu.	30	23. 28	256. 4	262. 29	22. 38.	22. 32
27	W.	1	0	268. 53	275. 14	22. 11	21. 35
28	Th.	2	0. 15	281. 32	287. 46	20. 44	19. 40
29	F.	3	1. 2	293. 56	300. 2	18. 22	16. 53
30	Sa.	4	1. 47	306. 2	311. 59	15. 13.	13. 23
31	Su.	5	2. 31	317. 51	323. 41	11. 24	9. 17

D E C E M B E R 1769. [139]

Days of the Month.	Days of the Week.	Semidr. D at Noon.	Semidr. D at Mid-night.	Hor. Par. D at Noon.	Hor. Par. D at Midnight.	Propor. Lo. gar. at Noon.	Propor. Lo. gar. at Midn.
		" "	" "	" "	" "	" "	" "
1	F.	14. 46	14. 48	54. 11	54. 17	5214	5206
2	Sa.	14. 50	14. 52	54. 25	54. 35	5195	5182
3	Su.	14. 56	15. 0	54. 47	55. 1	5166	5148
4	M.	15. 4	15. 9	55. 17	55. 35	5127	5103
5	Tu.	15. 14	15. 20	55. 56	56. 18	5076	5048
6	W.	15. 27	15. 34	56. 43	57. 8	5015	4984
7	Th.	15. 42	15. 49	57. 35	58. 3	4950	4915
8	F.	15. 57	16. 5	58. 32	59. 1	4878	4843
9	Sa.	16. 13	16. 20	59. 29	59. 56	4809	4776
10	Su.	16. 27	16. 33	60. 21	60. 43	4746	4719
11	M.	16. 38	16. 42	61. 2	61. 17	4697	4679
12	Tu.	16. 45	16. 46	61. 27	61. 33	4668	4660
13	W.	16. 46	16. 45	61. 33	61. 29	4660	4665
14	Th.	16. 43	16. 39	61. 19	61. 5	4677	4693
15	F.	16. 34	16. 28	60. 47	60. 26	4715	4740
16	Sa.	16. 21	16. 14	60. 1	59. 35	4770	4801
17	Su.	16. 7	15. 59	59. 7	58. 39	4835	4870
18	M.	15. 51	15. 43	58. 10	57. 42	4906	4941
19	Tu.	15. 36	15. 29	57. 15	56. 49	4975	5008
20	W.	15. 22	15. 16	56. 24	56. 1	5040	5069
21	Th.	15. 10	15. 5	55. 41	55. 22	5095	5120
22	F.	15. 1	14. 57	55. 6	54. 51	5141	5161
23	Sa.	14. 53	14. 51	54. 38	54. 28	5178	5191
24	Su.	14. 48	14. 46	54. 20	54. 13	5202	5211
25	M.	14. 45	14. 44	54. 8	54. 4	5218	5223
26	Tu.	14. 44	14. 43	54. 3	54. 2	5225	5226
27	W.	14. 44	14. 44	54. 3	54. 5	5225	5222
28	Th.	14. 45	14. 47	54. 9	54. 14	5217	5210
29	F.	14. 48	14. 50	54. 20	54. 27	5202	5193
30	Sa.	14. 53	14. 55	54. 36	54. 46	5181	5167
31	Su.	14. 59	15. 2	54. 58	55. 11	5152	5134

[140] D E C E M B E R 1769.

Distances of ♄'s Center from Stars, and from ☉ east of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
1	♊ Pegasi.	67. 7. 18	65. 41. 36	64. 15. 55	62. 50. 16
2		55. 42. 29	54. 17. 2	52. 51. 40	51. 26. 22
3		44. 21. 12	42. 56. 33	41. 32. 4	40. 7. 48
4		33. 11. 14	31. 49. 19	30. 28. 3	29. 7. 30
5	♈ Arietis.	61. 53. 46	60. 20. 30	58. 46. 57	57. 13. 8
6		49. 19. 46	47. 44. 14	46. 8. 24	44. 32. 16
7		36. 27. 6			
7	♌ Aldeba- ran.	69. 19. 33	67. 40. 29	66. 1. 1	64. 21. 8
8		55. 55. 39	54. 13. 19	52. 30. 35	50. 47. 27
9		42. 6. 6	40. 20. 43	38. 35. 0	36. 48. 58
10		27. 55. 37	26. 8. 34	24. 21. 34	22. 34. 47
11	♋ Pollux.	55. 17. 48	53. 27. 19	51. 36. 41	49. 45. 56
12		40. 31. 41	38. 41. 8	36. 50. 50	35. 0. 50
13	♌ Regulus.	61. 29. 37	59. 35. 18	57. 41. 5	55. 56. 59
14		46. 19. 8	44. 26. 14	42. 33. 39	40. 41. 24
15		31. 26. 1	29. 36. 23	27. 47. 20	25. 58. 54
16		17. 10. 0			
16	♋ Spica 𐌆	70. 23. 48	68. 35. 20	66. 47. 20	64. 59. 47
17		56. 8. 48	54. 23. 56	52. 39. 31	50. 55. 34
18		42. 22. 38	40. 41. 22	39. 0. 33	37. 20. 9
19		29. 4. 37	27. 26. 48	25. 49. 24	24. 12. 26
20		16. 13. 57			
17	♌ The Sun.	121. 22. 8	119. 44. 44	118. 7. 49	116. 31. 21
18		108. 35. 49	107. 2. 0	105. 28. 37	103. 55. 38
19		96. 16. 59	94. 46. 28	93. 16. 18	91. 46. 32
20		84. 22. 59	82. 55. 18	81. 27. 55	80. 0. 51
21		72. 49. 53	71. 24. 30	69. 59. 22	68. 34. 28
22		61. 33. 20	60. 9. 43	58. 46. 18	57. 23. 2
23		50. 29. 16	49. 6. 54	47. 44. 40	46. 22. 33
24		39. 33. 44			
30	♊ Pegasi.	47. 2. 4	45. 36. 55	44. 11. 59	42. 47. 16
31		35. 47. 52	34. 25. 8	33. 2. 57	31. 41. 23
J. 1		25. 7. 27			

D E C E M B E R 1769. [141]

Distances of ♄'s Center from Stars, and from ☉ east of her.

Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		° ' "	° ' "	° ' "	° ' "
1	α Pegasi.	61. 24. 39	59. 59. 3	58. 33. 29	57. 7. 58
2		50. 1. 8	48. 35. 59	47. 10. 56	45. 46. 0
3		38. 43. 47	37. 20. 5	35. 56. 44	34. 33. 45
4		27. 47. 43			
4	α Arietis.	68. 4. 17	66. 32. 2	64. 59. 33	63. 26. 47
5		55. 39. 3	54. 4. 39	52. 29. 59	50. 55. 1
6		42. 55. 51	41. 19. 7	39. 42. 5	38. 4. 45
7	Aldeba- ran.	62. 40. 51	61. 0. 9	59. 19. 4	57. 37. 33
8		49. 3. 56	47. 20. 1	45. 35. 45	43. 51. 6
9		35. 2. 41	33. 16. 10	31. 29. 28	29. 42. 36
10		20. 48. 26			
10	Pollux.	62. 37. 48	60. 48. 9	58. 58. 15	57. 8. 8
11		47. 55. 6	46. 4. 12	44. 13. 17	42. 22. 25
12		33. 11. 8			
12	Regulus.	69. 7. 7	67. 12. 46	65. 18. 22	63. 23. 58
13		53. 53. 0	51. 59. 13	50. 5. 38	48. 12. 17
14		38. 49. 28	36. 57. 57	35. 6. 51	33. 16. 11
15		24. 11. 13	22. 24. 21	20. 38. 27	18. 53. 37
16	Spica ♏	63. 12. 41	61. 26. 2	59. 39. 51	57. 54. 6
17		49. 12. 3	47. 29. 1	45. 46. 27	44. 4. 19
18		35. 40. 11	34. 0. 39	32. 21. 33	30. 42. 52
19		22. 35. 53	20. 59. 46	19. 24. 4	17. 48. 48
17	The Sun.	114. 55. 21	113. 19. 48	111. 44. 42	110. 10. 2
18		102. 23. 5	100. 50. 57	99. 19. 14	97. 47. 54
19		90. 17. 8	88. 48. 5	87. 19. 22	85. 51. 0
20		78. 34. 6	77. 7. 38	75. 41. 26	74. 15. 31
21		67. 9. 49	65. 45. 23	64. 21. 9	62. 57. 8
22		55. 59. 58	54. 37. 4	53. 14. 20	51. 51. 43
23		45. 0. 33	43. 38. 40	42. 16. 55	40. 55. 16
29	α Pegasi.	52. 43. 50	51. 18. 16	49. 52. 46	48. 27. 21
30		41. 22. 46	39. 58. 32	38. 34. 37	37. 11. 2
31		30. 20. 33	29. 0. 34	27. 41. 36	26. 23. 50

[142] D E C E M B E R 1769.

Distances of γ 's Center from $\odot$, and from Stars west of her.

Days.	Stars Names.	Noon.	3 Hours.	6 Hours.	9 Hours.
		° ' "	° ' "	° ' "	° ' "
2	The Sun.	44. 57. 28	46. 19. 23	47. 41. 22	49. 3. 28
3		55. 55. 53	57. 18. 47	58. 41. 52	60. 5. 6
4		67. 4. 0	68. 28. 25	69. 53. 5	71. 17. 59
5		78. 26. 12	79. 52. 40	81. 19. 26	82. 46. 31
6		90. 6. 42	91. 35. 46	93. 5. 12	94. 35. 1
7		102. 9. 46	103. 41. 56	105. 14. 30	106. 47. 31
8		114. 39. 1	116. 14. 38	117. 50. 43	119. 27. 15
6	α Aquilæ.	49. 51. 13	51. 11. 22	52. 32. 28	53. 54. 30
7		60. 57. 23	62. 24. 19	63. 51. 57	65. 20. 18
8		72. 51. 59	74. 24. 10	75. 56. 56	77. 30. 15
9	α Pegasi.	37. 38. 36	39. 16. 53	40. 56. 11	42. 36. 24
10		51. 9. 42	52. 54. 29	54. 39. 51	56. 25. 49
11		65. 23. 33			
11	α Arietis.	21. 46. 56	23. 34. 56	25. 23. 49	27. 13. 30
12		35. 30. 42	38. 23. 21	40. 16. 16	42. 9. 25
13	Aldebaran.	19. 5. 18	20. 54. 21	22. 44. 17	24. 34. 52
14		33. 52. 25	35. 44. 16	37. 36. 5	39. 27. 47
15		48. 43. 46	50. 34. 16	52. 24. 28	54. 14. 21
16		63. 18. 32			
16	Pollux.	22. 53. 5	24. 31. 54	26. 11. 17	27. 51. 9
17		36. 14. 32	37. 55. 20	39. 36. 2	41. 16. 34
18		49. 35. 36			
18	Regulus.	12. 57. 27	14. 30. 17	16. 4. 21	17. 39. 19
19		25. 38. 37	27. 14. 30	28. 50. 15	30. 25. 48
20		38. 20. 30	39. 54. 44	41. 28. 43	43. 2. 28
21		50. 47. 38	52. 19. 58	53. 52. 6	55. 24. 0
22		63. 0. 34	64. 31. 20	66. 1. 56	67. 32. 22
23	Spica α	20. 59. 45	2. 29. 16	23. 58. 44	25. 28. 9
24		32. 54. 5	34. 23. 5	35. 52. 2	37. 20. 56
25		44. 44. 54	46. 13. 35	47. 42. 14	49. 10. 53
26		56. 34. 2			
31	The Sun.			39. 38. 37	41. 2. 37
J. 1		48. 5. 6			

DECEMBER 1769. [143]

Distances of γ 's Center from $\odot$, and from Stars west of her.					
Days.	Stars Names.	12 Hours.	15 Hours.	18 Hours.	21 Hours.
		$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "	$^{\circ}$ ' "
1	The Sun.	39. 30. 44	40. 52. 17	42. 13. 55	43. 35. 39
2		50. 25. 42	51. 48. 2	53. 10. 31	54. 33. 8
3		61. 28. 31	62. 52. 5	64. 15. 51	65. 39. 49
4		72. 43. 7	74. 8. 29	75. 34. 7	77. 0. 2
5		84. 13. 53	85. 41. 35	87. 9. 37	88. 38. 0
6		96. 5. 11	97. 35. 44	99. 6. 41	100. 38. 1
7		108. 20. 56	109. 54. 48	111. 29. 6	113. 3. 50
8		121. 4. 14			
6	α Aquilæ.	55. 17. 24	56. 41. 11	58. 5. 47	59. 31. 11
7		66. 49. 21	68. 19. 4	69. 49. 24	71. 20. 23
8		79. 4. 8			
8	α Pegasi.	31. 17. 35	32. 50. 51	34. 25. 30	36. 1. 27
9		44. 17. 29	45. 59. 23	47. 42. 5	49. 26. 32
10		58. 12. 22	59. 59. 26	61. 47. 1	63. 35. 3
11	α Arietis.	29. 3. 54	30. 54. 54	32. 46. 25	34. 38. 22
12		44. 2. 46			
12	Aldebaran.	12. 6. 52	13. 47. 25	15. 31. 16	17. 17. 27
13		26. 25. 55	28. 17. 19	30. 8. 56	32. 0. 38
14		41. 19. 22	43. 10. 45	45. 1. 59	46. 53. 0
15		56. 3. 56	57. 53. 9	59. 42. 1	61. 30. 29
16	Pollux.	29. 31. 24	31. 11. 59	32. 52. 47	34. 33. 40
17		42. 56. 54	44. 37. 2	46. 16. 54	47. 56. 26
18	Regulus.	19. 14. 49	20. 50. 37	22. 26. 35	24. 2. 37
19		32. 1. 9	33. 36. 19	35. 11. 16	36. 46. 0
20		44. 35. 57	46. 9. 13	47. 42. 15	49. 15. 3
21		56. 55. 42	58. 27. 11	59. 58. 30	60. 29. 37
22		69. 2. 38			
22	Spica μ	15. 1. 20	16. 30. 58	18. 0. 36	19. 30. 11
23		26. 57. 30	28. 26. 44	29. 55. 55	31. 25. 2
24		38. 49. 48	40. 18. 38	41. 47. 25	43. 16. 11
25		50. 39. 30	52. 8. 7	53. 36. 45	55. 5. 23
31	The Sun.	42. 26. 47	43. 51. 7	45. 15. 37	46. 40. 17

[144] DECEMBER 1769.

JUPITER'S Satellites will not be visible this Month,
being too near the SUN.

EXPLANATION and USE

OF THE

A R T I C L E S

Contained in the

ASTRONOMICAL and NAUTICAL EPHEMERIS.

IT may be proper first to premise, that all the Calculations are made according to apparent Time by the Meridian of the Royal Observatory at Greenwich. They are likewise adapted to apparent Noon, except where they are otherwise distinguished, as the Eclipses and Configurations of Jupiter's Satellites, the Moon's Places, &c, computed for Midnight, and the Distances of the Moon from the Sun and Stars for every third Hour; which are all computed to the apparent Times set down.

Apparent Time is that deduced immediately from the Sun, whether from the Observation of his passing the Meridian, from his Altitude observed at a Distance from the Meridian, or from his observed Rising or Setting. This Time is different from that shewn by Clocks and Watches well regulated at Land, which is called equated or mean Time. This will be explained when we come to treat of the Equation of Time.

The Day is here supposed, according to the Method of Astronomers, to begin at Noon, or 12 Hours later than the civil Day of the same Denomination, and to be counted up to 24 Hours, or the succeeding Noon, when the next Day begins. Thus the Day of the Month and the Hour of the Day are the same in this Method as in the civil Account at Noon, and from Noon till Midnight; but from Midnight till Noon they

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differ;

differ; for whereas in the civil Account a fresh Day is supposed to begin at Midnight, and the Hours to begin over again, in this Method the Day is still continued beyond Midnight, and the Reckoning of the Hours is continued up to 24. Thus the Distances put down to January 10, 15 Hours, belong to January 11 at Three in the Morning by civil Reckoning.

There are 12 Pages for every Month. The first Column of the first Page of each Month contains the Day of the Month; the Second, the Day of the Week expressed concisely by the initial Letter or Letters, *Sa.* standing for Sunday, *M.* for Monday, *Tu.* for Tuesday, *W.* for Wednesday, *Th.* for Thursday, *F.* for Friday, and *Sa.* for Saturday: The third Column exhibits the Sundays and Festivals of the Church of England, and other remarkable Days: The last Column shews at Top the Moon's Phases, or the Times of new and full Moon, and of the first and last Quarter, or two Quadratures with the Sun: Beneath are contained miscellaneous Phænomena, namely, Eclipses of the Sun and Moon, and Occultations of Planets or fixed Stars not less than the fourth Magnitude, by the Moon, as they should happen at Greenwich by the Tables; the Conjunctions of the Moon with all Stars not less than the fourth Magnitude, which can be Occultations any where on the Globe, between the Latitudes of 60° . North and 40° . South: The Conjunctions, Oppositions and Quadratures of the superior Planets with the Sun; and the Conjunctions and greatest Elongations of the inferior Planets from the Sun, the Entrance of the Sun into the several Signs, and any other remarkable Phænomena.

The Stars are expressed by Bayer's Characters of Reference. The Conjunction of the Moon or a Planet with a Star, is denoted by prefixing the Character of the Moon or Planet to that of the Star, the Time of the Conjunction being placed immediately after. The Case is the same with Respect to the Occultation of a Star or Planet by the Moon, only this is further distinguished by the Addition of *Im.* or Immersion, to signify the Disappearance behind the Moon; and *Em.* or Emer-
 son, to signify the Re-appearance of the same. Thus $8^d \text{ } \text{D} \text{ } \text{S} \text{ } \text{V}$
 $16^h. 22'$. signifies that the Moon will be in Conjunction with the Star $\text{S} \text{ } \text{V}$ on the Eighth Day at $16^h. 22'$. exclusive of Parallax: And $10^d. \text{D} \text{ } \text{II} \text{ } \text{Imm.} \text{ } 9^h \text{ } 14'$. *Em.* $10^h. 23'$ signifies that the Moon will eclipse II on the 10th Day, the immersion being at $9^h \text{ } 14'$. and at $10^h. 23'$. apparent Time at Greenwich.

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The Occultations set down are those only visible at Greenwich; and the Circumstances will not differ very widely in most Parts of the Kingdom; but in very distant Places they will differ very much, owing to the Change of the Moon's Parallax, or it may become no Occultation at all: The like may be said of Eclipses of the Sun.

Eclipses of the Sun, and Occultations of fixed Stars by the Moon, if observed in Places whose Latitude and Longitude are well determined, may be applied to the Correction of the lunar Tables; but if made in Places whose Latitude only is well known, may be applied to the Determination of the Longitude of the Place; but for this Purpose an accurate Calculation must be made of the Moon's Parallaxes in Longitude and Latitude, which makes this Method of settling the Longitudes of Places, though a very accurate one, less convenient in Use for Persons not much versed in astronomical Calculations. However, this ought not to discourage Travellers or Mariners from endeavouring to make these Observations as often and as carefully as possible, when they shall happen to be at any Place whose Longitude they have Reason to think has not been at all or but indifferently determined; since the necessary Calculations may be made at any Time afterwards by themselves, at leisure, or referred to the Skill of Astronomers and Mathematicians.

Eclipses of the Moon are not liable to this Inconvenience; the Longitude of any Place, where an Eclipse has been observed, being deduced immediately by taking the Difference of the Time of the Observation and that set down in the Ephemeris, and converting it into Degrees, at the Rate of 15 to One Hour, &c. or more briefly by Table Pages 6. 7, 8. of the Tables requisite to be used with the Ephemeris. But as the Beginning or Ending of an Eclipse of the Moon cannot be generally observed nearer than One Minute, and sometimes Two or Three Minutes of Time, the Longitudes of Places cannot be certainly determined by this Method from a single Observation of the Beginning or End nearer than a Degree. It is unnecessary to mention that even this Point of Exactness will often be of great Service. If both the Beginning and End of the Eclipse be observed, a considerably greater Degree of Exactness will be attained.

The Conjunctions of the Moon with the Planets, or fixed Stars not less than the fourth Magnitude, which may prove Occultations in some inhabited Parts of the Globe, are evidently designed to instruct Mariners or Travellers to look out

frequently for such Observations; which if they happen to prove Occultations, and are carefully observed, will afford a certain Means of determining the Longitude of the Place of Observation.

The Days of the Oppositions, Quadratures, &c. of the Planets with Respect to the Sun, are Times at which they ought to be observed in fixed Observatories, for settling the Elements of their Orbits by a Series of several Years Observations.

The Two first Columns of the Second Page of the Month contain the Day of the Month and Week as before; next follow the Sun's Longitude, right Ascension in Time, Declination, and the Equation of Time, with the Difference from Day to Day.

The Longitude of the Sun is made use of in most of the succeeding Calculations of the Ephemeris, and may serve either to verify them, or to make other similar Calculations at a different Time of the Day. Particularly it may serve with the Help of the Moon's Longitude, to find the Distance of the Moon from the Sun at any Time, independent of the Distances contained in the Four last Pages of the Month. To find the Sun's Longitude at any Time different from Noon, Proportion must be made according to its daily Increase: Saying as 24^h is to the Hour from Noon reckoned by the Meridian of Greenwich, so is the daily Variation of the Sun's Longitude, to a fourth Number; which added to the Sun's Longitude at the preceding Noon, gives the true Longitude at the given Time.

If the Time given be that of a Meridian different from Greenwich, it must be first reduced thereto, by adding or subtracting the Difference of Longitude turned into Time (at the Rate of One Hour to 15° , and One Minute of Time to 15 Minutes, or more briefly by Pages 6, 7, and 8, of the requisite Tables) according as the Place is to the West or to the East of Greenwich. Example: Suppose any one should want to know the Sun's Longitude, January 19, 1767, at $4^h. 35'$. being in $21^\circ 15'$. Longitude East of Greenwich. The Difference of Longitude turned into Time by Table Page 6, is $1^h. 25'$ which subtracted from $4^h. 35'$. because the Place is East of Greenwich, leaves $3^h. 10'$. for the Time reduced to the Meridian of Greenwich. The Sun's Longitude the preceding Noon is, $9^\circ. 29'. 18''. 2''$. and the following Noon is, $10^\circ. 0'. 19'. 4''$. the Difference is, $1^\circ. 1'. 2''$. or $61'. 2''$. the daily Variation. Then say, as 24^h is to $3^h. 10'$. so is $61'. 2''$ to $8'. 3''$. which added to $9^\circ. 29'. 18''. 2''$. the Sun's Longitude on the preceding

preceding Noon, gives $9^{\circ}.29'.26''.5''$ the Sun's Longitude at the Time given. In like Manner any other of the following Articles is to be found by the Help of the Ephemeris.

The Sun's Longitude serves also to compute the Aberration of the fixed Stars and Planets.

The Sun's right Ascension in Time is useful to the practical Astronomer in regular Observatories, who adjusts his Clocks by sidereal Time. It is also useful to him for converting apparent into sidereal Time; as suppose that of an Eclipse of Jupiter's Satellites, in order to know at what Time it may be expected to happen by his Clocks: For this Purpose, the Sun's right Ascension at the preceding Noon, together with the Increase of right Ascension from Noon, must be added to the apparent Time of the Phenomenon set down in the Ephemeris.

The Sun's right Ascension in Time serves also to compute the apparent Time of a known Star's passing the Meridian: Thus subtract the Sun's right Ascension in Time at Noon from the Star's right Ascension in Time, the Remainder is the apparent Time of the Star's passing the Meridian nearly; from which the proportional Part of the daily Increase of the Sun's right Ascension for this apparent Time from Noon being subtracted, leaves the correct Time of the Star's passing the Meridian.

Hence the apparent Time may be found from an observed Altitude of a known fixed Star, suppose one contained Page 12 or 13 of the requisite Tables; as will be explained hereafter.

The Sun's right Ascension in Time is also useful for computing the Time of the Moon and Planets passing the Meridian, as will be shewn under their proper Articles.

The Sun's Declination is necessary to find the Latitude, whether at Sea or Land, from the Meridian Altitude observed; it is also requisite for finding the Latitude from Two Altitudes observed with the Interval of Time measured by a Watch; it serves for computing the Sun's Azimuth, having his Altitude and the Latitude of the Place given, in order to find the Variation of the Compass; it is required jointly with the Latitude of the Place and the Sun's horary Angle to compute his Altitude, if neglected to be observed at the Time of taking the Moon's Distance from the Sun for finding the Longitude, being useful to facilitate the Calculation of the Effect of Refraction and Parallax upon the Distance; it is also necessary to calculate the apparent Time from an observed Altitude of the Sun at a Distance from

from the Meridian, the Latitude being given ; or to compute the Time of the Sun's Setting or Rising ; which, though a less accurate Method than the former of obtaining the Time, may yet be useful when that cannot be had. For any of these Purposes, the Sun's Declination must be found to the Time given nearly reduced to the Meridian of Greenwich, making Proportion according to the daily Increase or Decrease, in like Manner as was shewn with Respect to the Sun's Longitude.

The Equation of Time is a Correction, which added to or subtracted from the apparent Time (according to its Title at the Top of the Column) gives equated or mean Time, or that which should be shewn by a good Clock or Watch. Apparent Time is that which takes its Beginning from the Passage of the Sun's Centre over the Meridian of any Place ; and had the Sun no Motion in the Ecliptic, or was his Motion reduced to the Equator or in right Ascension uniform, he would always return to the Meridian after equal Intervals of Time. But his apparent Motion in the Ecliptic being continually varying, and his Motion in right Ascension being rendered further unequal on Account of the Obliquity of the Ecliptic to the Equator, from these Causes it arises that the Intervals of his Return to the Meridian become unequal, and the Sun will gradually come too slow or too soon to the Meridian for an equable Motion, such as that of Clocks and Watches ought to be.

This Retardation or Acceleration of the Sun's coming to the Meridian is called the Equation of Time, and is contained in the last Column but One of Page 2d ; and when applied according to its Title to the Apparent Time, or that deduced immediately from the Sun, gives the mean or equated Time, whence the Error of a Clock or Watch may be found, and, if required, it may be corrected.

If it is proposed to convert mean Time into apparent, this is done by a contrary Process, by applying the Equation of Time to the mean Time given, with its Title or Sign changed ; *viz.* subtracting instead of adding, and adding instead of subtracting.

The Equation of Time being set down in the Ephemeris for the Noon at Greenwich, Proportion must be made according to the daily Difference, to find what it should be at any given Time reduced to the same Meridian, as in the preceding Articles. The last Column of this Page, containing the daily Differences of the Equation, is designed for this Purpose,

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As often at it may be required to make any Calculations from astronomical Tables, and the Time given be apparent Time; it is necessary first to apply the Equation of Time thereto to convert it into mean Time, the Tables being disposed according to mean Motions. Thus the Articles contained in the Ephemeris answering to Noon were computed to 0^h. increased, or 24 Hours diminished, by the Equation of Time: And the Moon's Places set down for Midnight were computed to 12^h. increased or diminished by the Equation of Time.

What has been shewn concerning the Equation of Time chiefly respects the Astronomer, the Mariner having little to do with it in computing his Longitude from the Moon's Distances from the Sun and Stars observed at Sea with the Help of the Ephemeris, all the Calculations thereof being adapted to apparent Time, the same which he will obtain by the Altitudes of the Sun or Stars in the Manner hereafter prescribed.

But if Watches made upon Mr. John Harrison's or other equivalent Principles should be brought into Use at Sea, the apparent Time deduced from an Altitude of the Sun must be corrected by the Equation of Time, and the mean Time found compared with that shewn by the Watch, the Difference will be the Longitude in Time from the Meridian by which the Watch was set; as near as the Going of the Watch can be depended upon.

The Equation of Time was computed for the Ephemeris of 1767 from the Table, Page 3d of Mayer's Tables; but on Account of that Table being made only to the nearest Second without Decimals, and the Neglect of the small Equations of the Sun, the Calculations of that Article in the Year 1767, cannot always be depended upon nearer than Two Seconds. For the Year 1768 and the following Years it will be computed in the strict Manner explained in my Remarks upon that Subject, in the *Philos. Transact.* Vol. liv. P. 342 for the Year 1764; namely, by taking the Difference of the Sun's true right Ascension, and his mean Longitude corrected by the Equation of the Equinoxes in right Ascension, and turning it into Time at the Rate of 1^l. to 15^l. &c. The Equation of Time will be additive or subtractive as the Sun's true right Ascension is greater or less than his mean Longitude.

The Semidiameter of the Sun, Page 3d, is necessary to reduce the observed Altitude of his upper or lower Limb to that
of

of the Centre; also to reduce the observed Distance of the Moon's nearest Limb from the Sun's nearest Limb to the Distance of the Centres. It is also useful to Astronomers to verify or ascertain the Exactness of the Scale of their Micro-meters, by Comparison with the Measure of the Sun's horizontal Diameter. This Practice is particularly useful in solar Eclipses, when the Distance of the Cusps or the Verse Sine of the uneclipsed Part has been measured with the Micro-meter. The Semidiameters of the Sun in Mayer's Tables, on which all the Calculations respecting the Sun, and Moon are made, suppose the Semidiameter at the mean Distance to be $16'.2'',8$. which Mr. Mayer says he deduced from above 130 Observations taken with his Six Foot mural Quadrant, which seemed to him not ill adapted to the Purpose. It may not be amiss to take this Opportunity to remark that the Quadrant here mentioned was given to the University of Göttingen by his late Majesty, and was made by Mr. John Bird after the Model of the Eight Foot mural Arch, which he finished for the Royal Observatory at Greenwich, and put up there in the Year 1750. Mr. Mayer made his Observations with his Six Foot mural Arch, from the Year 1756, to the Time of his Decease; with it he settled the mean Obliquity of the Ecliptic to the Beginning of the Year 1756, at $23^{\circ}.28'.16''$. which Dr. Bradley settled by his Observations made in the Years 1750 and 1751, at $23^{\circ}.28'.18''$. The Difference is agreeable to what ought to arise from the gradual Diminution of the Obliquity of the Ecliptic at the Rate of about $\frac{1}{2}$ a Second in a Year. The same Instrument he also used in settling the Elements of his solar Tables; and it is most probable that with the same he settled his Table of Refractions at the End of his solar Tables; the Agreement of this Table with Dr. Bradley's, see Page 2d of requisite Tables, (being both suited to the same Temperature of the Air) is so great, that they seem rather like One and the same than Two different Tables.

The Time of the Sun's Semidiameter passing the Meridian, serves to reduce an Observation of a Transit of the preceding or subsequent Limb over the Meridian to that of the Centre, when only One was observed. It signifies a Portion of apparent Time, or even mean Time, the Difference being absolutely insensible upon so small an Interval. It is found thus: Increase the Sun's Semidiameter in the Ratio of the Cosine of his Declination to the Radius, to find his Semidiameter in right Ascension, which turned into Time at the Rate of $1'$. to $15'$. and $1''$. to $15''$. gives the Time

Time required. The Sun's Semidiameter in right Ascension is readily found by adding the Log. Cosine of his Declination to the logistic Logarithm of his Semidiameter, the Sum is the logistic Logarithm of his Semidiameter in right Ascension; which divided by 15 gives the Time of his Semidiameter passing the Meridian. If the Clock by which the Observation is made be regulated according to sidereal Time, this Quantity must be increased in the Ratio of 365 to 366, if great Precision is required.

From the Time of the Sun's Semidiameter passing the Meridian may be also found the Time of its passing the horizontal or vertical Wire of a Quadrant or Sextant, which on some Occasions may have its Use.—The hourly Motion of the Sun is useful in computing solar and lunar Eclipses; also in correcting the assumed Longitude of the Ship, in order to find the Time from an Observation of the Distance of the Moon from the Sun, independant of the Distances contained in the nautical Ephemeris; See British Mariner's Guide, Page 49, and Table at the End of the same, Page 25, which is also copied at Page 14 of requisite Tables. The Logarithm of the Sun's Distance is useful in the Calculation of the Places of the Planets and Comets. The Place of the Moon's Node signifies its mean Longitude, and is necessary for finding the Equation of the equinoctial Points both in Longitude and right Ascension, the Equation of the Obliquity of the Ecliptic, and the Deviations of the fixed Stars in right Ascension and Declination.

The Eclipses of Jupiter's Satellites are well known to afford the readiest, and for general Practice the best Method of settling the Longitudes of Places at Land; and it is by their Means principally that Geography has been so much reformed within a Century past, and the Position of the most distant Places determined to equal Accuracy with the nearest. It was hoped that some Means might be found of using proper Telescopes on Shipboard to observe these Eclipses, and could this be effected, it would be of great Service in ascertaining the Longitude of a Ship from Time to Time. In my Voyage to Barbadoes under the Direction of the Commissioners of Longitude, I made a full Trial of the late Mr. Irwin's Marine Chair proposed for this Purpose, but found it totally impracticable to derive any Advantage from the Use of it; and, considering the great Power requisite in a Telescope for making these Observations well, and the Violence as well as

Irregularities of the Motion of a Ship, I am afraid the complete Management of a Telescope on Shipboard will always remain among the Desiderata. However, I would not be understood to mean to discourage any Attempt founded upon good Principles to get over this Difficulty.

The Telescopes proper for observing the Eclipses of Jupiter's Satellites, are common refracting Telescopes, from 15 to 20 Feet, reflecting Telescopes of 18 Inches or Two Feet, and Telescopes of Mr. Dollond's Construction with Two Object Glasses from Five to 10 Feet; or, which are still more convenient, those of $3\frac{1}{2}$ Feet, which he has lately found a Method of constructing with Three Object Glasses, which are as manageable as reflecting Telescopes, and perform as much as those which he makes of 10 Feet with Two Object Glasses.

The Eclipses of Jupiter's Satellites are observed by Astronomers at Land, as well in order to provide Materials for improving the Theories and Tables of their Motions, as for the sake of Comparison with the corresponding Observations which may be made by Persons in different Parts of the Globe, whereby the Longitude of such Places will be accurately ascertained. It is indeed to be lamented that Persons who visit distant Countries are not more diligent to multiply Observations of this Kind, for want of which, the Observations made by Astronomers on Shore lose Half their Use, and the Improvement of Geography seems to be at a Stand. But it is to be hoped that an Emulation will spring up among those who may have Opportunities of rendering so useful a Service to the Public, to incite them to watch diligently for the Occasions of observing these Eclipses carefully, particularly of the First and Second, which are most exact for the Purpose. The Eclipses carefully calculated and set down in the Ephemeris, will serve to advertise them and Observers in general of the Times when they should attend to these Observations. The Person who shall be under any Meridian different from Greenwich, must turn his Difference of Longitude into Time: See Table Page 6, 7, and 8, and add it to or subtract it from the Time of the Eclipse set down in the Ephemeris, according as he is to the East or West of Greenwich, to find the apparent Time at which the Eclipse will happen at his Meridian, nearly. He must further take care to regulate his Watch or Clock by apparent Time, or at least to know the Difference, as well in order to apprise him of the Time to look out for the

the Eclipse, as for ascertaining the apparent Time exactly at which he shall observe it. Equal Altitudes of the Sun or Stars taken with an astronomical Quadrant afford the best Means of regulating Clocks and Watches for occasional Observations; or they may be taken with a Hadley's Quadrant, by Reflection from a Bason of Water or Quicksilver, or from the Horizon of the Sea, if the Observer has an open Prospect, and is not elevated above 5 or 600 Feet above the Level of the Sea. But, if Opportunity does not admit of taking equal Altitudes, the Time may be determined from One Altitude taken in any of the Methods above mentioned, at least Two or Three Points of the Compass distant from the Meridian, but the nearer to the East or West the better, the Latitude of the Place being known, or being found by Observations of the Meridian Altitude of the Sun or Stars made on Purpose. It will be better to take several Altitudes in order to take a Mean of the Results for greater Certainty. The Manner of computing the apparent Time from the Altitude of the Sun or a Star, will be observed when we come to treat of the Method of finding the Longitude by the Observations of the Distance of the Moon from the Sun and Stars by the Help of the Ephemeris.

The Observer being in a Place whose Longitude is well known, should be settled at his Telescope Three Minutes before the expected Time of an Immersion of the first Satellite; Six or Eight Minutes before that of the second and third Satellites; and a Quarter of an Hour or more before that of the fourth Satellite; chiefly on Account of the Uncertainty of their Theories; but, if the Longitude of the Place is very uncertain, he must begin to look out for the Eclipse proportionably sooner; Thus if the Longitude of the Place is uncertain to 30 Degrees, answering to 12 Minutes of Time, he ought to fix himself to his Telescope 12 Minutes sooner than is mentioned above. Nevertheless when he has observed One Eclipse of any Satellite, and thereby found the Error of the Tables, he may allow the same Correction to the Calculations of the Ephemeris for several Months, which will advertise him very nearly of the Time of expecting the Eclipses of the same Satellite, and dispense with his attending so long.

The Immersions signify the Instant of the Disappearance of the Satellite by entering into the Shadow of Jupiter; and the Emerisions signify the first Instant of its Appearance at com-

ing out of the fame. They generally happen when the Satellite is at some Distance from the Body of Jupiter, except near the Opposition of Jupiter to the Sun, when the Satellite approaches nearer to his Body. Before the Opposition of Jupiter to the Sun the Immersions and Emerfions happen on the West Side of Jupiter, and after the Opposition on the East Side; but if an astronomical Telescope be used, which reverses Objects, the Appearances will be directly the contrary. Before the Opposition, the Immersions only of the first Satellite are visible; and after the Opposition, the Emerfions only. The same is generally the Case with respect to the second Satellite; both the Phenomena of the same Eclipse are frequently observable in the Two outer Satellites. The Immersions and Emerfions marked with an Asterisk in the Ephemeris are those visible at Greenwich.

To know if an Eclipse will be visible in any Place, find if Jupiter is 8° , or 10° . above the Horizon of the Place, and the Sun as much below it. This may be done near enough by a celestial Globe: Otherwise, the Time of the Sun's Rising and Setting may be found for any Latitude by a Table of semi-diurnal Arcs, contained in the popular Book called the Mariner's Compass Rectified, and many other Books; the Time of Jupiter's Rising and Setting may also be found from the Time of his passing the Meridian and Declination set down in the Ephemeris, with the Help of the same Table of semi-diurnal Arcs; adding or subtracting the semi-diurnal Arc answering to the same Declination of the Sun: Remembering always that if Jupiter's Declination and the Latitude of the Place are of the same Denomination, the semi-diurnal Arc will be more than Six Hours, and if they are of contrary Denominations, it will be less than Six Hours.

The Immersion or Emerfion of any Satellite being carefully observed in any Place according to apparent Time, the Longitude from Greenwich is found immediately by taking the Difference of the Observation from the corresponding Time shewn in the Ephemeris, which must be turned into Degrees, &c. by Table Page 5, 7, and 8; and will be East or West of Greenwich, as the Time observed is more or less than that of the Ephemeris.

Example: Suppose an Emerfion of the first Satellite should be observed at the Cape of Good-Hope, May 9, 1767, at $10^h 46'. 45''$. apparent Time: The Time by the Ephemeris being

being $9^h. 33'. 12''$. the Difference is $1^h. 13'. 33''$. whence by Table Page, 6, 7, and 8, the Longitude of the Cape should be $18^\circ. 23' 15''$. East of Greenwich, because the Time supposed to be observed at the Cape is more than that of the Ephemeris.

It may not be useless here to observe that the Longitude of the Cape of Good Hope $1^h. 13'. 33'' = 18^\circ. 23'. 15''$. set down in the British Mariner's Guide, is that of the Town; the Latitude also belongs to the same; being both determined from the Observations of Messrs. Maſon and Dixon, who went thither under the Direction of the Royal Society, and observed the Transit of Venus in the Year 1761. Hence, by the Help of the Charts, I find the Longitude of the Cape Point or Promontory $18^\circ. 45'$. East of Greenwich, and its Latitude $34^\circ. 30'$. S. the Longitude of Cape Falſo, $19^\circ. 15'$. E. and its Latitude $34^\circ. 34'$. S. If these Determinations of the Situations of the Cape Point and Cape Falſo are in any respect uncertain, it arises from the Imperfection of the Charts I was obliged to make use of, in reducing the Longitude and Latitude from the Cape Town to the Two mentioned Points: For from the near Agreement of the Abbeé de la Caille's Observations with those of Messrs. Maſon and Dixon, it is probable that the Situation of few Places is better determined than that of the Cape Town: But if any one has Possession of any Manuscript or printed Charts of these Parts that he thinks may be depended upon, or has any Opportunity of determining the Points in Question relatively to each other from the Comparison of several Journals of Ships, he may perhaps fix these Places with more Certainty than is here pretended to.

It is to be observed that a correspondent Observation of an Eclipse of a Satellite of Jupiter, made under a well known Meridian, is to be preferred to the Calculations of the Ephemeris for comparing with an Observation made in a Meridian whose Longitude is required; but if no corresponding Observation can be obtained, as is frequently the Case, it will be best to find what Correction the Calculations of the Ephemeris require by the nearest Observations to the given Time that can be obtained; which Correction applied to the Calculation of the given Eclipse in the Ephemeris, renders it almost equivalent to an actual Observation.

The Longitudes and Latitudes of the Planets, Page 4, serve to know where to look for them in the Heavens, and
when

when their Places may be conveniently settled by comparing them with fixed Stars by the Help of a Micrometer in a Telescope. They also shew when they are in the most important Points of their Orbits, where it is most material to observe them. They also serve to enable Persons less skilled to distinguish them from the fixed Stars. Their Declinations and apparent Time of passing the Meridian are particularly useful to Astronomers who are furnished with Quadrants and Transit Instruments well fixed in the Meridian, in setting their Instruments for observing their right Ascensions and Declinations.

The apparent Time of a Planet's passing the Meridian may be computed thus; the Planet's right Ascension being calculated from its Longitude and Latitude, and turned into Time, subtract the Sun's right Ascension at Noon in Time from it, to find the Time of the Planet's passing the Meridian nearly, which call T ; take the Difference of the $\odot$ and Planets daily Variations in right Ascension in Time; if the Planet is progressive in right Ascension, or the Sum if it is retrograde, which call X ; then say, by the Rule of Proportion;

As $24^h \mp X: T:: X: e$ and $T \pm e$ will be the correct Time of the Planet's passing the Meridian. The upper Signs are to be used both to X and e if the Planet's progressive Motion in right Ascension be greater than that of the Sun; in any other Case the lower Signs are to be made use of.

But perhaps it may be found more readily by continual Approximation as follows: Take the proportional Part of the Difference or Sum of the $\odot$ and Planet's daily Motion in right Ascension, answering to the Time of the Planet's passing the Meridian, found nearly, in Proportion to 24^h . and take a further like proportional Part of this proportional Part; and again of this last, and so on as far as is necessary. The Sum of all these proportional Parts added to the Time of the Planet's passing the Meridian found nearly, if the Planet's progressive Motion in right Ascension is greater than that of the Sun, otherwise subtracted, gives the apparent Time of the Planet's passing the Meridian.

Example: Let it be required to find the Time of the Moon's passing the Meridian, July 1 1767.

The Sun's right Ascension in Time July 1st is, $6^h. 40'. 25''$. and July 2d, $6^h. 44'. 33''$. by the Ephemeris. Therefore his daily Motion in right Ascension is $4'. 8''$. The Moon's right Ascension July 1st at Noon by the Ephemeris, is $159^\circ. 2'$. answering to $10^h. 36'. 8''$. of Time, and July 2d is, $169^\circ. 39'$. answering

Answering to $10^h. 18'. 36''$. The Difference is, $42'. 28''$. of Time, from which $4'. 8''$. being subtracted leaves $38'. 20''$. Subtract $6^h. 40'. 25''$. the Sun's right Ascension July 1st, at Noon from $10^h. 36'. 8''$. the Moon's right Ascension the same Noon, the Remainder $3^h. 55'. 43''$. is the Approximate Time of the Moon's passing the Meridian. The proportional Part of $38'. 20''$ answering to this, is $6'. 17''$ and the proportional Part of $6'. 17''$. is $9''$; therefore $6'. 17''$ and $9''$ or $6'. 26''$ added to $3^h. 55'. 43''$ give $4^h. 2'. 9''$, the apparent Time of the Moon's passing the Meridian. In the Ephemeris it is $4^h. 2'$. It may also be computed by taking the Difference of the Moon's right Ascensions at Noon and Midnight, but then half the Sun's daily Variation in right Ascension must be made use of, and Proportion must be made for 12 instead of 24 Hours: And if the Moon passed the Meridian after Midnight, the Sun's right Ascension at Midnight must be used, which is a Mean between his right Ascensions on the preceding and subsequent Noon. For the Planet's, it will be sufficient to take the first proportional Part only.

The Configurations of Jupiter's Satellites, Page 5, exhibit the apparent Positions of the Satellites with respect to each other, and to Jupiter at such an Hour of the Evening or Night as they are most likely to be observed, and serve to distinguish the Satellites from one another. Jupiter is distinguished by the Mark $\odot$, and the Satellites by Points with Figures annexed, the Figure 1 signifying the first Satellite, 2 the second Satellite, &c. When the Satellite is approaching towards Jupiter, the Figure is put between Jupiter and the Point; and when the Satellite is receding from Jupiter, the Figure is put on the other Side of the Point. The Satellites are in the superior Parts of their Orbits, or furthest from the Earth, when they are marked to the right Hand or West of Jupiter approaching him; or to the left Hand or East of Jupiter receding from him; but are in the inferior Part of their Orbits, or nearest to the Earth, when they are marked to the right Hand or West of Jupiter receding from him, or to the left or East of Jupiter approaching him. The Cypher 0 sometimes annexed to the Figure of the Satellite towards the Margin, signifies that it is invisible on the Face of Jupiter; and the black Mark $\bullet$, signifies that it is invisible, being eclipsed in Jupiter's Shadow, or behind Jupiter, and eclipsed by his Body.

The 7th and 5 following Pages of each Month contain the Moon's Place, and all the Circumstances relating to her Motions,

Mons, and her Distances from the Sun and proper Stars, from which her Distance should be observed for finding the Longitude at Sea. The Longitudes, Latitudes, and Declinations of the Moon, and Time of her passing the Meridian, afford the like Uses with the same Circumstances of the Planetary Motions, and many more besides. For the sake of greater Precision, the Moon's Longitude, Latitude, Right Ascension, Declination, Semidiameter, horizontal Parallax, with its logistic or proportionall Logarithm, are computed twice a Day, to Noon and Midnight, and may readily be inferred to any intermediate Time with the greatest Exactness.

Example: Let it be required to find the Moon's Longitude and Latitude, &c. July 16, 1767, at 16^h. 22' 16". First to find the Longitude. The Moon's Longitude, July 16, at 12^h. is 0°. 6°. 40'. 25". and July 17 at Noon, 0°. 13°. 47'. 48". the Difference 7°. 7'. 23". is the Moon's Motion in 12 Hours; say then, by the Rule of Proportion,

As 12^h. is to 4^h. 22'. 16". (the Excess of 16^h. 22'. 16". above 12^h.) so is 7°. 7'. 23". to 2°. 35'. 41". which added to 0°. 6°. 40'. 25". the Moon's Longitude at 12^h. gives 0°. 9°. 16'. 6", the Moon's Longitude nearly; but this must be corrected on Account of the Moon's unequal Motion in 12 Hours, by Page 11 of requisite Tables; for this Purpose take out of the Ephemeris the Two Longitudes of the Moon next preceding the given Time, and the Longitudes immediately following it, and set them down in Order one after another, as follows.

	1st Diff.	2d. Diff.
July 16, Noon 11. 29. 29. 34.	0. 1. "	' "
Midnight 0. 6. 40. 58.	7. 10 51.	3. 28.
17, Noon 0. 13. 47. 24.	7. 7. 23.	3. 44.
Midnight 0. 20. 51. 27.	7. 3. 39.	

Take their Differences, 7°. 10'. 51". 7°. 7'. 23". 7°. 3'. 39". take the Differences of these Differences, or the 2d Differences, 3'. 28". 3'. 44". and take their Mean which is 3'. 36". Now look for the Correction in Page 11 of requisite Tables answering to 4^h. 22' after Midnight, found on the Side, and 3'. 36" at Top, 21" will be found under 3'. and 28" under 4'. the the Difference is 7". whence 35" will require 4", and the Correction sought is 21" + 4" = 25". which, according to the Remark at the Bottom of the Table, must be added (because

cause the Motion in 12 Hours or first Differences are decreasing to $0^{\circ} 9'. 16''. 6'''$. the Moon's Longitude found by even Proportion; whence the Moon's true Longitude is $0^{\circ} 9'. 16''. 31'''$. and is as correct as the Longitudes from which it is deduced.

N. B. If the first Differences of the Four Longitudes of the Moon taken out first increase and then decrease, or, vice versa, first decrease and then increase, take half the Difference of the Two second Differences for the Mean second Difference, with which take the Correction from Page 11, and add or subtract it as the 1st. first Difference is greater or less than the third first Difference.

To find the Moon's Latitude. Take out of the Ephemeris the Two Latitudes preceding and Two following the given Time; and set them down in Order, and take their first and second Differences; and the mean of the Two second Differences; find the proportional Part of the Middle first Difference answering to the Hours and Minutes, &c. of the given Time after Noon or Midnight; which correct in the following Manner: Entering Table Page 11 with the Hour from Noon or Midnight on the Side, and the mean second Difference at Top, take out the corresponding Number of Seconds, which added to or subtracted from the proportional Part found above, according as the Motion in 12 Hours or first Differences are decreasing or increasing; or, more generally, according as 1st first Difference is greater or less than third first Difference, gives the proportional Part corrected; which now added to or subtracted from the Moon's Latitude at the preceding Noon or Midnight, as the Latitude in these 12 Hours is increasing or decreasing, gives the Moon's Latitude correct.

Example: The Moon's Latitude is required, July 16, 16^h. 22'. 16''.

	D's Lat. by the Ephem.	1st Dif.	2d Dif.	Mean of 2d Dif.
	$^{\circ} \quad ' \quad ''$	$' \quad ''$	$' \quad ''$	$' \quad ''$
July 16. Noon	4 31 10 N.	18 26	4 36	4 40
Midnight	4 49 36	13 50	4 44	
17 Noon	5 3 26	9 6		
Midnight	5 12 32			

The Moon's Latitude July 16 at Midnight being $4^{\circ} 49' 36''$. N. and the Motion in the next 12 Hours being $13' 50''$. say by Proportion;

As 12^h . is to $4^h. 22'. 16''$. so is $13'. 50''$. to $5'. 2''$; but this must be corrected by adding $33''$. the Correction from Page 11, answering to the Hour $4^h. 22'$. and the Mean Second Difference $4' 40''$, because the first Differences are decreasing, or rather because the first of them $18'. 26''$. is greater than the last of them $9'. 6''$. therefore the proportional Part corrected is $5'. 2'' + 33'' = 5'. 35''$, which added to $4^{\circ} 49'. 36''$. gives $4^{\circ} 55' 11''$. N. the Moon's Latitude correct.

Remarks on some Circumstances necessary to be attended to, in order to obtain and apply the Correction of second Differences rightly in computing the Moon's Latitude.

I. If the Moon's Latitude taken out of the Ephemeris for Noon and Midnight changes its Denomination from North to South or from South to North, the Sum of the Two Latitudes of contrary Denominations, where the Change happens, is to be accounted the first Difference in that Place.

II. If the Three first Differences first increase and then decrease, or vice versa, first decrease and then increase, Half the Difference of the Two second Differences is to be taken for the mean second Difference.

III. If the Series of Four Latitudes taken out should first increase and then decrease about the Moon's greatest Latitudes, take the Sum of the Two first Differences standing on each Side of the greatest Latitude for the second Difference in that Place; correct the Moon's Latitude at Noon or Midnight by the simple proportional Part first found; and to the Latitude so corrected, add always in this Case the Correction from Table Page 11, answering to the Mean of the Two second Differences.

Before I quit this Subject of Interpolation by second Differences, I shall point out another Method, by which the same End may be obtained more readily, and with fewer Rules, by those who are well acquainted with algebraical Subtraction and Addition, and the Manner of applying the Signs in those Operations. Subtract each Latitude from the following for the first Differences, to which prefix the Sign — if the Latitudes decrease; and subtract each first Difference, thus found, from the following one of the same Order for the second Differences. Half the Sum of the Two second Differences

ferences standing on each Side of the Interval to be interpolated, is to be accounted the mean second Difference; the Correction corresponding to it by Table Page 11, is to be applied always with the contrary Sign.

These Operations are to be performed, and the Signs to be applied as in algebraic Subtraction and Addition. Note further, if the Four given Latitudes change their Denomination, call the second Latitude $+$, and those of a contrary Denomination $-$.

The Moon's Declination may be found at any Hour in the same Manner as her Latitude; but as the Correction arising from second Differences will never exceed $2\frac{1}{2}'$, this may be neglected on most Occasions: but if any one is desirous to obtain the Declination true to a Minute, the Correction is easily applied, as shewn above.

The other Articles of Page 7, and 8, viz. the Moon's right Ascension, her Semidiameter, horizontal Parallax, with its Logarithm, and the Distances contained in the Four last Pages of the Month, may be all found correctly by even Proportion, without requiring any Allowance on Account of second Differences. The proportional Part of the Moon's Longitude, &c. for any Hour, may be found very readily by the Help of the Table of proportional Logarithms at the End of the requisite Tables: For which consult the Explanation of those Tables.

The Moon's Longitude and Latitude are used in computing her Distances from the Sun and Stars contained in the Four last Pages of the Month, as well as in the Appulses to Stars pointed out in Page 1, and, jointly with her Parallax and Semidiameter, are necessary for computing the Eclipses of the Sun and Moon, and the Occultations of fixed Stars and Planets by the Moon. They also facilitate the Calculation of the Longitude of any Place from an Eclipse of the Sun, or an Occultation of a Star or Planet by the Moon observed: Or, if the Meridian be well known, the Parallax and Semidiameter serve to deduce the Moon's true Place in the Heavens from the Observation, which compared with that given by the Ephemeris shews the Error of the Tables, whatever it be at that Time. The Moon's Semidiameter and Parallax are applied in correcting almost all Observations of the Moon. The logistic Logarithms of the Moon's Parallax, serve further to facilitate the Calculations of Parallaxes, but if the Table of proportional Logarithms at the End of the requisite Tables be made use,

of, which will be most convenient; the constant Quantity 0.4771 must be added to the logistic Logarithms of the Moon's horizontal Parallax contained in the Ephemeris of 1767, to reduce them to proportional Logarithms. It will be more convenient to substitute proportional Logarithms of the Moon's Parallax instead of the logistic Logarithms in a future Ephemeris.

The Moon's right Ascension and Declination are useful to compute her Altitude at any Time, particularly at the Observation of her Distance from the Sun or a Star, supposing it was neglected to be or could not be observed properly; which latter Case may sometimes happen in the Night, though I think but rarely; the utmost Accuracy not being required for the Calculations of Refraction and Parallax. See British Mariner's Guide. Page 57. The Moon's Declination, with her Semidiameter and Parallax, serve for finding the Latitude by the Meridian Altitude of her upper or lower Limb observed at Sea. See British Mariner's Guide, Page 93. The Moon's right Ascension and Declination serve also to compute the Time from her Altitude observed at the Observation of her Distance from a Star; whence the Longitude may be inferred, though no Altitude of the Sun or a Star was taken for regulating the Time. See British Mariner's Guide, Page 61.

The Distances of the Moon from the Sun and fixed Stars, contained in the Four last Pages of the Month, are set down to every Three Hours of Apparent Time by the Meridian of Greenwich, and are designed to relieve the Mariner from the Necessity of a Calculation, which he might think prolix and troublesome, and to enable him, when compared with the same Distances observed carefully at Sea, to infer his Longitude readily and with little Danger of Mistake to a Degree of Exactness that may be thought sufficient for most nautical Purposes. But useful and valuable as the Practice of this Method may be at present, it is a Remark not unworthy our Notice, that there is Room to hope, by future Improvements of the lunar Tables, and the Introduction of a more accurate Method of constructing Instruments, it may be carried to a much higher Degree of Perfection.

The Moon's Distance are computed both from the Sun and proper Stars, and generally from One Object on each Side of her, to afford the Mariner a greater Number of Opportunities of Observation, and a Means of attaining a greater Degree of Exactness. The Distances from the Sun

are computed between 40° and 120° of Distance. While the Moon is between the Distances of 20° and 40° from the Sun, her Distance is computed only from a Star on the contrary Side that the Sun is. When she is between the Distances of 40° and 90° from the Sun, her Distance is computed both from the Sun and from a Star on the contrary Side to the Sun; when the Moon is above 90° from the Sun her Distance is computed from Two Stars, one on each Side of her; though still her Distance is computed also from the Sun from 90° to 120° . Though the Distance of the Moon from the Sun or Star, well observed with a good Instrument, is sufficient to determine the Longitude, with the Help of the Ephemeris, always within a Degree, and generally much nearer, yet it will conduce to still greater Accuracy, if the Observer takes the Distance of the Moon from Two Stars, or the Sun and a Star, or, when the Moon is between 90 and 120° Distance from the Sun, from the Sun and Two Stars, if he can be so lucky as to obtain these several Observations.

The Longitude being computed from the Observations made with each Star respectively, the Mean of the Results is to be taken as probably approaching nearest to the true Longitude. In particular the Moon's Distance should be taken from Two Stars, or the Sun and a Star on each Side of her, as often as Opportunity permits, since the Mean of the Results will probably be at least as exact again as either separately, in as far as depends on any Imperfection of the Instruments, and unavoidable small Errors arising in the Use of them; Errors of these Kinds having a natural tendency to correct each other; for that small Error which arises from the lunar Tables will affect the Result from either Star equally. But the Error of Mr. Mayer's last lunar Tables here made use of, scarce ever exceeding $1'$ at the most, and seldom amounting to $20''$. the Uncertainty hence arising in the Determination of the Longitude can scarcely exceed half a Degree, and generally will not exceed 10 Miles.

The Distances set down in the Ephemeris, afford the Observer a ready Means of knowing the Star from which the Moon's Distance is to be observed; for he has nothing to do but to set his Quadrant to the Distance computed roughly from the Ephemeris, neglecting the Seconds, at the apparent Time estimated nearly by the Meridian of Greenwich; and direct his Sight to the East or West of the Moon, according as the Distance at Greenwich is found in Page 9 and

re, or in Two last Pages of the Month; and having found the Moon upon the little Speculum, let him give a Sweep with the Quadrant to the Right and Left, and he will find the Star he seeks for, if above the Horizon and the Air be clear, nearly in a Line perpendicular to the Line of the Moon's Horns or longer Axis, or, which is the same Thing, in the Line of the Moon's shorter Axis produced. The Star is always one of the brightest, so that there is little Danger of mistaking another for it, if the preceding Directions are carefully observed. The Time at Greenwich is estimated nearly by turning the supposed Longitude from Greenwich into Time, by Table Page 6, 7, and 8, and adding it to or subtracting it from the Apparent Time at the Ship, as its Longitude is West or East of Greenwich. It will be sufficient if the Distance be computed from the Ephemeris within 10'. or 20'. for setting the Quadrant. The principal Use of the Distances of the Moon from the Sun and fixed Stars; namely, in determining the Longitude by Comparison with the corresponding Distances observed at Sea, will be shewn hereafter in its proper Order, in the Dissertation explaining the Method of computing the Longitude at Sea by the Help of the Ephemeris.

The Distances contained in the Ephemeris were computed strictly to Noon and Midnight, and thence interpolated for every Three Hours, according to the Method shewn for computing the Moon's Latitude, Page 17—19: Except that the Correction of second Differences at the Middle of the Interval to be interpolated, was taken $\frac{1}{4}$ of the Mean of the Two second Differences, and at the first and third Quarter of the Interval was taken $\frac{3}{4}$ of the Correction just found at the Middle of the Interval; instead of consulting Table Page 11, which would however have given the same Result. But, at the first 12 Hours when the Distances of the Moon from a Star begin, and the last 12 Hours when the Distances end, there being only One second Difference instead of Two second Differences on each Side to take a Mean of, this Method fails in these Cases, and therefore the following is to be substituted in its stead, being derived from Sir Isaac Newton's Solution of the Problem of drawing a Curve through the Extremities of any Number of given Ordinates. Phil. Nat. Princ. Math. Page 486. Edit. ult.

From Four Distances at Noon and Midnight computed strictly, to interpolate Three Distances at the 3d, 6th, and 9th Hour of the first or last Interval.

Subtract

Subtract each Distance from the following, for the first Differences, and prefix the Sign —, if the Distances decrease. Subtract each first Difference thus found from the following one of the same Order, for the second Differences: And in like Manner subtract the first 2d Difference from the following for the third Difference; applying the Signs as in algebraic Subtraction. Denote the first or last first Difference by b , the first or last second Difference by c ; according as the Interpolation to be made is for the first or last 12 Hours, denote also the third Difference by d ; and, a being put to signify the Distance at the Beginning of the Interval, the interpolated Distances will be as follows:

At 3d Hour of first Interval	$a + \frac{1}{4}b - \frac{3}{32}c + \frac{7}{128}d$
At 6th Hour of first Interval	$a + \frac{1}{2}b - \frac{1}{8}c + \frac{1}{128}d$
At 9th Hour of first Interval	$a + \frac{3}{4}b - \frac{3}{32}c + \frac{5}{128}d$
Or	
At 3d Hour of last Interval	$a + \frac{1}{4}b - \frac{3}{32}c - \frac{5}{128}d$
At 6th Hour of last Interval	$a + \frac{1}{2}b - \frac{1}{8}c - \frac{1}{128}d$
At 9th Hour of last Interval	$a + \frac{3}{4}b - \frac{3}{32}c - \frac{7}{128}d$

In adapting these Formulæ to Numbers, great Care must be taken about the right Application of the Signs. Thus if b , c or d is Negative, apply the Number expressing the Value of that Term of the Formula where it is found with a contrary Sign to that of the Formula.

Let me add in this Place, that if in filling up the first and last Intervals, a new second Difference has been supposed in arithmetical Progression with the Two given ones, in order to take a Mean between it and the first or last second Difference, the Interpolation at the Middle of the Interval or 6th Hour will be had true, the same as if the above Formulæ had been used: But at the Interpolation of the first and third Quarter there will be an Error of $\frac{1}{128}$ third Difference; which will be corrected, by applying $+\frac{1}{128}d$ or third Difference, to Number found at the first Quarter of the Interval, and $-\frac{1}{128}d$ to that found at the third Quarter of the Interval; equally the same whether it be the first or last Interval.

